Carcass Data

Ultrasound Data

or DNA?

This is where I grew up and what has kept me in the beef industry

---

Ultrasound

▶ **First exposed to ultrasound in the early 90's with show cattle**

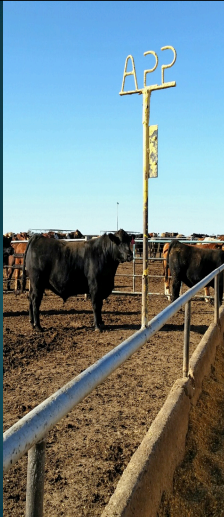▶ **More than 10,000 head scanned at Three Trees from 2000 through 2009**

Limitations & Issues

▶ **Contemporary Grouping**

  ▶ **Usually compared to weaning groups not post-weaning management groups**

    ▶ **Human Error**

    ▶ **Intentional Manipulation**

    ▶ **Stress & Shrink Can Cause Non-Genetic Variations**

      ▶ **– an animal off feed or in respiratory distress can provide flawed data**

      ▶ **– a group of 150 head removed from feed and water can result in dramatic differences from the first to last animal that is evaluated**

Harvest Data -

- In 2010, Three Trees collected harvest data from
  - 1,371 purebred Angus
  - 163 Charolais and Charolais hybrids

- In 2011, Three Trees collected harvest data from
  - 522 purebred Angus
  - 16 purebred Brangus
  - 86 Charolais and Charolais hybrids

  The 1,877 purebred Angus with parentage and identified harvest data were 31% USDA Prime and 88% Premium Choice

---

Three Trees steers in the feedlot -

In 2014, 102 steers gained 4.54 lbs. per day for 131 days

Feed conversion of 5.78 pounds of dry matter per pound of gain - cost of gain of $81.37 per hundredweight

They weighed an average of 1,462 lbs. at harvest

That harvest included Angus+ steers that graded **71%** *Certified Angus Beef®* (CAB®)

in a packing plant with a **3%** qualification rate for Certified Angus Beef

---

**Three Trees genetics on the rail -**

35 castrated mates to the Three Trees bulls sold in Nov of 2015 were harvested on June 15, 2015.

They graded 100% USDA Choice with 77% qualifying for the elite Certified Angus Beef brand applied to Premium Choice and USDA Prime carcasses.

The load had an average USDA Yield Grade of 3.0 with only two Yield Grade 4 and an average hot carcass weight of 864 pounds.

Limitations & Issues

▸ **Carcass data is age adjusted not "fat end point" adjusted like the industry handles decisions to harvest an animal**

▸ **Contemporary Grouping**

  ▸ **Usually compared to weaning groups not post-weaning management groups**

    ▸ **Data often treated as if produced from random matings even if both parents are registered or dams are multiple generations of known genetics**

    ▸ **Human error in contemporary group construction**

    ▸ **Intentional manipulation – is all the data submitted?**

carcass

ADG

fertility

Data and graphs compiled by ASA
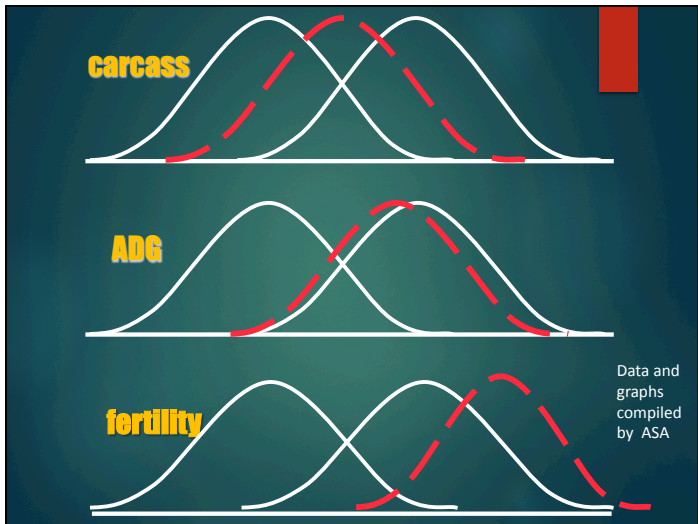
Genomic Testing

▸ **Time is money – results in two weeks instead of two years**

▸ **Removes all contemporary grouping challenges**

▸ **Takes data collection out of the hands of those with a vested interest in the results**

Limitations & Issues

▸ **Initial phenotype data used to train SNPs and create software interpretation data from large databases for traits with large volumes of data likely washed out most of the human error and bias built into the process – traits with smaller databases are much less reliable for use in accurate genomic selection and mating decisions**

▸ **Young animals, with small amounts of progeny phenotype data used to recalibrate genomic interpretation software are subject to all of the previously discussed inherent errors built into both harvest and ultrasound data collection. This can add volatility and confusion to the system**

▸ **Maintaining the integrity of genomic evaluation may require that SNP interpretation recalibration phenotypes come ONLY from structured and controlled random mating projects and not from field data to keep the results more scientifically sound**

Are Genomic-Enhanced EPDs the Best Genetic Prediction and Selection Tool for a New Era in Our Industry?

Is trying to blend old technology and new technology really a viable option for real improvement?

5551234

Did Henry Ford hire a mule breeder to lead the engineering team that he placed in charge of the development of automobiles that replaced mules?

Henry Ford
1863-1947

Ford
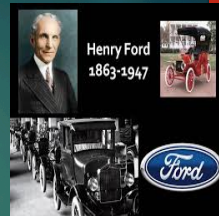
Don't Shoot the Messenger -

Several decades ago when Dave Nichols began predicting that we would live to see the genetics of beef cattle controlled by a few elite producers like the genetics of plants, pork and poultry, many stuck in the "status quo mindset" in the beef industry dismissed him as an alarmist rather than recognizing him as a futurist

It has already happened in the dairy industry!

▶ If you have seen a Holstein USA Sire Summary in the past year, it is quite obvious that Select Sires has already become the Monsanto of the dairy industry... April 2016 - 7 of the top 10 proven TPI sires and 13 of top 20 young genomic sires for GTPI – Advanced Reproductive Technology and Genomics!

▶ Unless individual producers are proactive in leading genomics adoption and defining the playing field, the beef industry will not be far behind as the technologies of genomic selection are combined with advanced reproductive technologies using the same models in our industry that have taken over the dairy industry...