WE SELL BULLS
WE ARE IN THE BULL BUSINESS

• Started in Colorado in 2003.
• In 2018, we will test and sell over 1,800 bulls.
• We select Angus, Red Angus, and Stabilizer for maternal traits that maximize cow/calf profitability.
• We select Charolais for terminal traits.
• We produce our bulls through a network of 42 cooperators (9,000+ cows) plus ET.
• Ten annual sales (CO, AR, CA, TX, NC).
STRONG BULL SALE GROWTH

Chart Title

# Sold

Category 1
Category 2
Category 3
Category 4

Series 1
Series 2
Series 3

Average Price

Series 1
Series 2
Series 3
Series 4
Series 5

2015 2016 2017 2018

2015 2016 2017 2018
WE HAVE THREE PROFIT INDEXES ON EVERY BULL WE PRODUCE:

• **$Ranch**: Profit from birth through weaning.
  - Fertility
  - Milk
  - Growth
  - Cow feed intake

• **$Feeder**: Profit from weaning to harvest:
  - Feed conversion
  - Carcass value
  - Carcass weight

• **$Profit**: puts it all together. $Ranch + $Feeder.
  - One number that predicts your bottom line!
### MOVING FAST

<table>
<thead>
<tr>
<th>Year</th>
<th>BW</th>
<th>WW</th>
<th>YW</th>
<th>Milk</th>
<th>Days To Calv</th>
<th>Cow Mat Wt</th>
<th>In-take</th>
<th>F/G</th>
<th>IMF</th>
<th>REA</th>
<th>Back Fat</th>
<th>$ PROFIT</th>
<th>$ RANCH</th>
<th>$ FEEDER</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005</td>
<td>+1.6</td>
<td>42</td>
<td>72</td>
<td>19</td>
<td>-5.1</td>
<td>1272</td>
<td>+49</td>
<td>0.04</td>
<td>.19</td>
<td>.44</td>
<td>-0.01</td>
<td>$7,215</td>
<td>$29</td>
<td>$50</td>
</tr>
<tr>
<td>2017</td>
<td>-0.6</td>
<td>47</td>
<td>82</td>
<td>21</td>
<td>-5.0</td>
<td>1236</td>
<td>+14</td>
<td>-0.14</td>
<td>.41</td>
<td>.77</td>
<td>0.00</td>
<td>$13,036</td>
<td>$46</td>
<td>$99</td>
</tr>
<tr>
<td>Lot 1 &amp; 2</td>
<td>-1.5</td>
<td>61</td>
<td>108</td>
<td>24</td>
<td>-5.3</td>
<td>1227</td>
<td>-76</td>
<td>-0.56</td>
<td>.57</td>
<td>1.02</td>
<td>0.00</td>
<td>$20,547</td>
<td>$70</td>
<td>$159</td>
</tr>
</tbody>
</table>

- Multi-trait selection works!
$Ranch Genetic Trend

Adding Profit of $2 / cow per year
Our goal is to be a lowcost producer. One of our Key Performance Indicators is pounds weaned per cow exposed. We have used Leachman Stabilizer bulls since 2007. Our pounds weaned per cow exposed is up 12%!
$Profit Trend Line
All Bulls on Test

Adding Profit of $6.00 / calf per year
The L U Ranch is a leading buyer of Stabilizer bulls. Each year, they retain ownership in over 700 steers to harvest. In 2008, their average bulls $8,362. In 2012, their average bull had improved to $10,596. Here are their feeding results:

<table>
<thead>
<tr>
<th>Year</th>
<th>In Wt</th>
<th>AD G</th>
<th>Feed</th>
<th>F:G</th>
<th>REA</th>
<th>MARB</th>
<th>Carc. Wt</th>
<th>Advantage</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008</td>
<td>641</td>
<td>3.67</td>
<td>19.8</td>
<td>5.4</td>
<td>12.5</td>
<td>26%</td>
<td>816</td>
<td></td>
</tr>
<tr>
<td>2012</td>
<td>637</td>
<td>3.78</td>
<td>18.4</td>
<td>4.9</td>
<td>13.4</td>
<td>49%</td>
<td>862</td>
<td>$122</td>
</tr>
</tbody>
</table>

Here is a prototype:

- 907 lb. carcass weight
- 16.2 in² ribeye area
- Upper 2/3 CH (CAB)
- Converted 4.5 to 1
- $1,824 return to ranch
$PROFIT SHARE – SHARE DATA

• International, multi-breed database with over 1,000,000 animals
• 38,000 calves in calendar 2017.
• Data transfer via CowSense
• Solutions:
  – EPD’s on their herd
  – $Ranch, $Feeder, & $Profit
• Weekly EPD runs
• Consulting on data collection and selection strategies.

• Not the biggest database, but perhaps the best:
  – Only high integrity breeders.
  – Biased towards the upper end of profitability
  – Uniquely heterogeneous breed composition within contemporary groups.
• Unique traits:
  – dry matter intake
  – cow size
  – PAP
  – udder quality

OUR KEY STRATEGIC ALLIANCES

• Sale of our rights via Reputation Feeder Cattle to the AAA.
• Growing and positive relationship with Lincoln County Feed Yard.
• Acquired Rocky Mountain Sire Services
• Alliance with ProGentus, a division of Trans Ova Genetics.
• Developing a DNA enhanced genetic analysis system with Zoetis.

Our goal is to position Leachman Cattle, our cooperators, and our customers as the leading genetic program in the industry.

• More market options.
• Better genetic tools.
• More rapid genetic progress.
Would you drive a racecar without steering?

Lee Leachman
Leachman Cattle of Colorado
1/11/18
**OUR COMPETITORS MADE RAPID PROGRESS:**

<table>
<thead>
<tr>
<th>Day 43</th>
<th>Day 57</th>
<th>Day 71</th>
<th>Day 85</th>
</tr>
</thead>
<tbody>
<tr>
<td>1957</td>
<td>2001</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chicken Genetics</td>
<td>Chicken Genetics</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Did they use ssGBLUP or BOLT?
WE HAVE AWESOME EPD...

**REMINGTON 700 AAC**

**Weight:** 7.5 lbs.

**Barrel Length:** 20in

**Design Features:** 308 Win with twenty-inch heavy barrel & 5/8-24 threaded muzzle; bolt action; X-Mark pro adjustable trigger; 4+1 capacity; blued barrel and receiver finish; and Hogue over-molded synthetic stock finish.

**Best Use:** Long range shooting, hunting

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**TIKKA T3 SCOUT CTR**

**Weight:** 7.5 lbs.

**Barrel Length:** 20in

**Design Features:** .308 Win caliber; a magazine capacity of 10; single-column detachable clip magazine; cold hammer-forged Sako barrel; weatherproof synthetic stock; single set trigger; adjustable cheek piece & stainless steel action.

**Best Use:** Long range shooting, hunting
WE HAVE AWESOME EPD... BUT CAN WE HUNT?

Deer hunter’s 8-point trophy wasn’t a buck

BY MICHAEL PEARCE
THE WICHITA EAGLE
DECEMBER 05, 2014 08:22 PM. UPDATED JANUARY 04, 2015 09:03 PM

Man is accused of shooting truck after misidentifying deer

A man was hunting when he thought a truck was a deer and fired one round from his 7mm high-powered scoped rifle and struck the vehicle.

Author: WGRZ
Published: 7:15 PM EST November 24, 2017
Updated: 8:07 PM EST November 24, 2017

TOWN OF NORTH HARMONY, NY — An Ohio man is accused of shooting a brown-colored pick-up truck after misidentifying it as a deer in the Town of North Harmony, according to the Chautauqua County Sheriff's Office.

The incident happened just before 11:30 a.m. Friday.

Deputies say that Marvin C. Miller was hunting on state lands in the area of Snake Forest Road when he thought the truck was a deer and fired one round from his 7mm high-powered scoped rifle and struck the truck.

Chuck Rorie, of Monroe, N.C., thought he had shot a buck when he killed this eight-point, turned out to be a rare doe with antlers. COURTESY PHOTO
ARE SELECTION OBJECTIVES ARBITRARY?

OR, IS THERE AN UNDERLYING PROFIT FUNCTION?
COW HERD GENETIC PROFIT DRIVERS

• Output:
  – What does her calf weigh? More
  – What is the calf worth? More

• Reproduction:
  – Calving ease / live calf %? Easier
  – Does she breed at 15 months? Yes
  – Does she breed back early? Earlier

• Longevity:
  – Does she stay in the herd? Longer

• Cow cost:
  – How much does she eat? Less
WHAT ABOUT OPTIMAL COW SIZE?

- Data from commercial herds in Arkansas, 2008, by Dr. Shane Gadberry.
- As cow size increased, the % of cow weight weaned (calf weight / cow weight) went down.
- For every 100 pounds of cow size, you lose 2.5% of cow weight weaned.
- Optimal: the smallest possible cow that will produce a 1050 lb. carcass!
What is your calf worth at weaning?

A $600 Spread from Top to Bottom!
From 185,000 steers at DCFY in Oberlin, KS
Profit Function

\[
\text{Profit} = \alpha + \beta_1 \times \text{WeaningWeight} \times \text{WeaningPrice} \times \text{LiveCalfPercentage} - \beta_2 \times \text{CowFeedCost} - \beta_3 \times \text{ReplacementCost} + \beta_4 \times \text{CarcassWeight} \times \text{CarcasValue} - \beta_5 \times (\text{LiveWeight} - \text{Weaning Weight}) \times \text{Conversion} \times \text{FeedCost} - \beta_6 \times \text{Health} + \]

## Does the Weighting Matter? Does ERT Inclusion Matter?

<table>
<thead>
<tr>
<th>Index</th>
<th>Avg of BW</th>
<th>Avg of WW</th>
<th>Avg of MILK</th>
<th>Avg of YW</th>
<th>Avg of BF</th>
<th>Avg of REA</th>
<th>Avg of IMF</th>
<th>Avg of RP</th>
<th>Avg of INTAKE</th>
<th>Avg of MWT</th>
<th>Avg of CWT</th>
</tr>
</thead>
<tbody>
<tr>
<td>$Profit</td>
<td>-0.1</td>
<td>60</td>
<td>31</td>
<td>105</td>
<td>-0.02</td>
<td>0.83</td>
<td>0.93</td>
<td>0.90</td>
<td>-9</td>
<td>14</td>
<td>832</td>
</tr>
<tr>
<td>UK £Profit</td>
<td>-0.3</td>
<td>60</td>
<td>31</td>
<td>107</td>
<td>-0.01</td>
<td>0.91</td>
<td>0.83</td>
<td>0.78</td>
<td>-5</td>
<td>11</td>
<td>826</td>
</tr>
<tr>
<td>$Ranch</td>
<td>-2.8</td>
<td>39</td>
<td>25</td>
<td>64</td>
<td>0.02</td>
<td>0.38</td>
<td>0.45</td>
<td>0.11</td>
<td>-63</td>
<td>-46</td>
<td>788</td>
</tr>
<tr>
<td>$Feeder</td>
<td>3.3</td>
<td>67</td>
<td>30</td>
<td>121</td>
<td>-0.04</td>
<td>0.80</td>
<td>0.76</td>
<td>1.13</td>
<td>22</td>
<td>58</td>
<td>857</td>
</tr>
</tbody>
</table>
What are we losing financially due to the lack of index use AND the use of poor indexes?

<table>
<thead>
<tr>
<th>Index</th>
<th>Avg of Ranch</th>
<th>Avg of Feeder</th>
<th>Avg of PROFIT</th>
</tr>
</thead>
<tbody>
<tr>
<td>$Profit</td>
<td>$ 58</td>
<td>$ 210</td>
<td>$ 24,659</td>
</tr>
<tr>
<td>UK£Profit</td>
<td>$ 65</td>
<td>$ 193</td>
<td>$ 24,034</td>
</tr>
<tr>
<td>$Ranch</td>
<td>$ 99</td>
<td>$ 28</td>
<td>$ 13,686</td>
</tr>
<tr>
<td>$Feeder</td>
<td>$ 18</td>
<td>$ 232</td>
<td>$ 21,562</td>
</tr>
</tbody>
</table>
BEST MODELS FOR INDEX CALCULATION?

• Linear, quadratic, or simulated? How do you fit optimums?
• Use historical weights or expected future weights?
• Do you model heterosis?
• What is the appropriate discount rate?
• Do you discount post weaning profit because of the likely inability to be paid of the producer sells at weaning?
• How do you treat economically relevant traits that are currently not monetized (or are poorly monetized) by the marketplace? (Example: red meat yield).
• What happens if you ignore financial realities on traits that you do not deem to be important?
WHERE WILL YOUR INDEX TAKE US?

• Seedstock producers don’t understand the indexes.
• Animal Breeders (You guys) do not understand the cattle.
• Once started, breed association members do not want to adjust the indexes.
• We devote less intellectual capital and financial resources to index development than any other activity in beef cattle selection….
WHO WILL SOLVE THE DILEMMA?

Breed associations seem ill-equipped to educate their membership about indexes. This allows too many half-truths to become common perceptions which then take on a false sense of being reality.

-- Dr. Mike MacNeil, Delta G
WHERE DO WE PUT OUR MONEY?

• Genetic prediction R&D?
• Extension?
• Decision Support?
QUESTIONS?