Update on Brahman BIN Growth and Carcase Data

Presented by
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\[ P = G + E \]

Where:

- **P** - Performance (Phenotype)
- **G** - Genetics (Genotype)
- **E** - Environment
How does BREEDPLAN predict the genetic package? (ie. remove the environment component)

1) Contemporary Groups.

2) Genetic linkage.
## How are Contemporary Groups Formed?

**Automatic:**
- Herd.
- Calving Year.
- ET v Natural.
- Twin v Single.
- Sex (Male v Female).
- Dam Age

**Automatic (Breeder Influence):**
- Weigh Date
- Calf Age/slicing.
- Sex (Bull v Steer)

**Breeder Supplied:**
- Breeder Defined Management Groups.
Contemporary Groups

- Banana (Steers)
- Barranga (Steers)
- Belmont (steers)
- Banana (females)
- Barranga (females)
- Belmont (females)
## Brahman BREEDPLAN Traits

<table>
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<tr>
<th>Growth</th>
<th>Fertility</th>
<th>Carcase</th>
<th>Other</th>
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<tbody>
<tr>
<td>Birth Weight</td>
<td>Scrotal Size</td>
<td>Carcase Weight</td>
<td>Flight Time</td>
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<td>Milk</td>
<td>Days to Calving</td>
<td>Eye Muscle Area</td>
<td>Shear Force</td>
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<tr>
<td>200-day Growth</td>
<td>Calving Ease</td>
<td>Rib Fat Depth</td>
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<tr>
<td>400-day Weight</td>
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<td>Rump Fat Depth</td>
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<tr>
<td>600-day Weight</td>
<td></td>
<td>Retail Meat Yield %</td>
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<tr>
<td>Mature Cow Weight</td>
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</tbody>
</table>
Data Collected and Analysed from Progeny

- Birth Date
- Birth Weight (Belmont)
- 200 day Weight
- 400 Day Weight
- 600 Day Weight
- P8 fat
- Rib Fat
- EMA
Other Data Collected

- Flight Time
- Tail Hair for DNA
- Structural Scores (feet, legs, navel, sheath)
Background

- Round 1 & 2 – 48 Sires analysed
- 11 Sires with no EBV’s before BIN
- 10 Sires with EBV’s for EMA & Fat before BIN
Results So Far
Change in Growth EBV’S Average for all Round Sire

![Bar chart showing change in growth EBV’S average for all round sire. The chart includes data points for BW, 200 DAY, 400 DAY, and 600 DAY.]
Change in Growth EBV’S Average for Top and Bottom 5 Round 1 Sires

- Top 5
- Bottom 5
- Breed Av
Change in Individual EBVs for 600 day Round 1 Sires
Change in Growth EBV’S Average for Top and Bottom 5 Round 2 Sires
Change in Individual EBVs for 600 day Round 2 2 Sires
Change in Growth EBVS Accuracy for all Sire
Change in Accuracy 600 day weight R1
Change in Accuracy 600 day weight R2
Evaluating EBVs

Compute difference in EBVs

Top 5 Sire

EBV

progeny

Bottom 5 Sires

EBV

progeny

Compute difference in progeny

\[ \frac{1}{2} \text{(sire EBV difference)} \]  
Mean progeny difference

EXPECTATION
Weight EBV’s

- R1 Steers from Banana
- R2 Steers from Barranga
“Banana R1 Steers”

200 Day Weight

Bottom 5 Sires

EBV = +11

Top 5 Sires

EBV = +36

Breed Av 2012 born animals 18 kg
Round 1 bin sires 24 kg

11 kg difference

Expect 12.5 kg

207 kg

218 kg
“Barranga R2 Steers”

**200 Day Weight**

**Bottom 5 Sires**
- EBV = +13

**Top 5 Sires**
- EBV = +30

Expect 8.5 kg difference

Breed Av 2012 born animals 18 kg
Round 2 bin sires 21 kg

9 kg difference

233 kg

242 kg
“Banana R1 Steers”

400 Day Weight

<table>
<thead>
<tr>
<th>Bottom 5 Sires</th>
<th>Top 5 Sires</th>
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<tbody>
<tr>
<td>EBV = + 16</td>
<td>EBV = + 51</td>
</tr>
</tbody>
</table>

Breed Av 2012 born animals 25 kg
Round 1 Bin Sires 29 kg

Expect 16.5 kg

17 kg

240 kg

difference

257 kg
"Barranga R2 Steers"

**Bottom 5 Sires**

EBV = + 20

**Top 5 Sires**

EBV = + 42

**400 Day Weight**

- **Expect 11 kg**
- **15 kg difference**

- Breed Av 2012 born animals: 25 kg
- Round 1 Bin Sires: 34 kg

- **275 kg**
- **290 kg**
600 Day Weight

**Bottom 5 Sires**

- EBV = + 25

**Top 5 Sires**

- EBV = +72

Breed Av 2012 born animals  34 kg
Round 1 Bin Sires  49 kg

Expect 23.5 kg

27 kg difference

377 kg

404 kg
“All R2 Steers Adjusted for Age, Wt & Origin”

**600 Day Weight**

**Bottom 5 Sires**
- EBV = +25
- Expect 18 kg

**Top 5 Sires**
- EBV = +61

Breed Av 2012 born animals: 34 kg
Round 2 Bin Sires: 43 kg

20 kg difference

410 kg

430 kg

Expect 18 kg, difference 20 kg
Round 1 Steers

- Steers went onto Leucaena in January
- AV 490KG
- Range 388 – 578 kg
- Slaughtered in May
Carcase EBV’s

• Heifers from Banana
• Heifer & Steers Barranga
Change in Carcase EBV’s

• Before BIN- 10 Sires with Carcase EBV’s
• March 2014 – all 48 bulls have carcase EBV’s
“Banana R1 Heifers”

Bottom 5 Sires

EBV = + 0.6

Top 5 Sires

EBV = + 5.3

Breed Av 2012 born animals 2.3 sq.cm
Round 1 Bin Sires 3.0 sq.cm

Expect 2.35 sq cm

4 sq.cm difference

49 sq.cm

53 sq.cm
"Barranga R2 Heifers"

**EMA**

**Bottom 5 Sires**
- EBV = +0.5

**Top 5 Sires**
- EBV = +4.5

Expect 2.0 sq cm

Breed Av 2012 born animals 2.3 sq.cm
Round 1 Bin Sires 3.0 sq.cm

2.1 sq.cm difference

48.8 sq.cm

51.0 sq.cm
“Banana R1 Heifers”

Rump Fat

Bottom 5 Sires

EBV = -2.6

Top 5 Sires

EBV = +0.6

Breed Av 2012 born animals - 0.4 mm
Round 1 Bin Sires - 1.0 mm

Expect 1.6 mm

1.4 mm difference

3.8 mm

5.2 mm
“Barranga R2 Steers”

Rump Fat

Bottom 5 Sires

EBV = - 1.8

Top 5 Sires

EBV = + 1.0

Breed Av 2012 born animals - 0.4 mm
Round 2 Bin Sires - 0.6 mm

Expect 1.4 mm

1.1 mm difference

2.9 mm

4.0 mm
“Banana R1 Heifers”

Rib Fat

**Bottom 5 Sires**

- EBV = - 2.0

**Top 5 Sires**

- EBV = + 0.4

**Expect** 1.2 mm

- Breed Av 2012 born animals - 0.4mm
- Round 1 Bin Sires – 0.7 mm

- 0.5 mm difference

1.3 mm

- 1.8 mm
“Barranga R2 Steers”

Rib Fat

**Bottom 5 Sires**
- EBV = -1.3

**Top 5 Sires**
- EBV = +0.4

Expect 0.85 mm

Breed Av 2012 born animals - 0.4 mm
Round 2 Bin Sires – 0.6 mm

1.1 mm difference

1.1 mm

2.2 mm
Round 3 Sires Flight Time

Flight Time

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>0.5</td>
</tr>
<tr>
<td>0.7</td>
</tr>
<tr>
<td>0.9</td>
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<tr>
<td>1.1</td>
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<td>1.3</td>
</tr>
<tr>
<td>1.5</td>
</tr>
<tr>
<td>1.7</td>
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Questions?