The 2016 and 2036 Cowherd

Beef Improvement Federation
June 16,2016
Manhattan, KS

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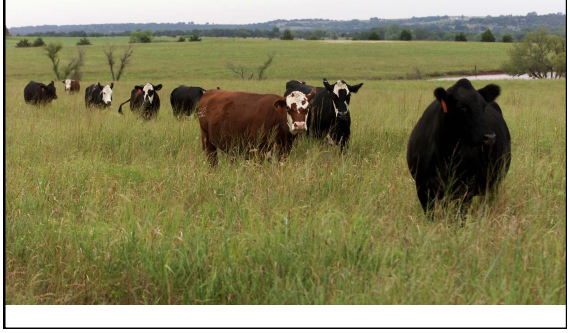
What we do and opportunities for 2036



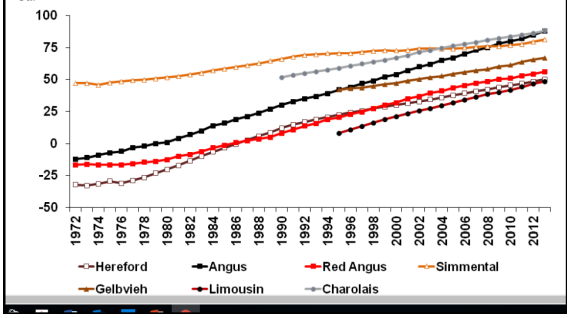
Post-weaning Perspective

Produce cattle with tremendous capacity for post-weaning growth and carcass weight

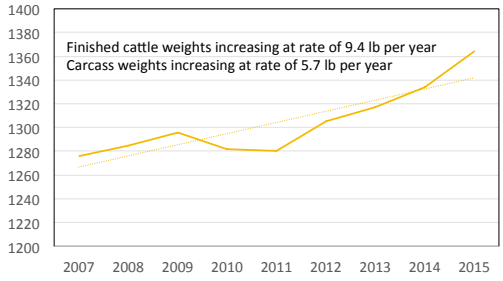
erence.com/bif2015/proceedings-by-speaker/10Kuehn-Thallman-across-breed-pg92-124.pdf

Figure 3. Relative genetic trends for yearling weight (lb) of the seven most highly used beef breeds (3a) and all breeds that submitted 2015 trends (3b) adjusted for birth year 2013 using the 2015 across-breed EPD adjustment factors.

3a.



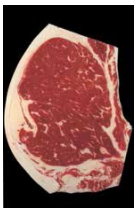
Finished Cattle Weights



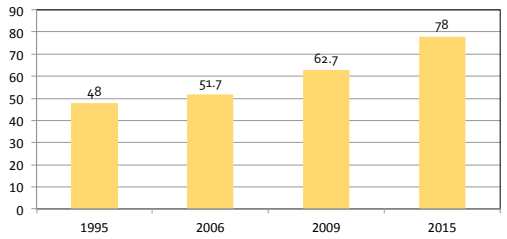
Livestock Marketing Information Center, 2016

Post-weaning Perspective

Produce cattle with tremendous capacity for marbling



Beef quality
% Cattle Grading USDA Choice and Above



Livestock Marketing Information Center, 2016

Post-weaning Perspective

Cutability has declined marginally

Cutability
% of Federally Inspected

Yield Grade	1995	2015
1	12.6	6.7
2	45.3	33.8
3	34.2	46.7
4	7.1	11.1
5	0.8	1.8

Livestock Marketing Information Center, 2016

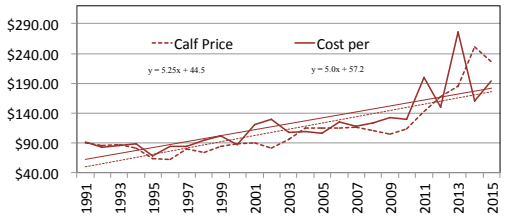
The commercial cow/calf segment (and the industry as a whole) has been progressive and responsive to the need for increased post-weaning phase performance and carcass quality

Cow/Calf Enterprise through Weaning

Profitability and Performance Data

- Kansas: Kansas Farm Management Association (KFMA)
  - Kevin Herbel
- North Dakota: Cow Herd Appraisal Performance Software (CHAPS)
  - Dr. Kris Ringwall
- New Mexico, Oklahoma, Texas: Standardized Performance Analysis (SPA)
  - Dr. Stan Bevers
- Upper Midwest (FINBIN), Center for Farm Financial Management, University of Minnesota

Cost vs Price Over Time, $ / Cwt



Standardized Performance Analysis, Dr. Stan Bevers, Texas A&M

Profitability Differences

Pendell et al., 2015 (KFMA data)

- 79 operations with data from 2010 through 2014
- High profit 1/3 averaged $415 more net return per cow compared to low profit 1/3
- 32.2% difference due to gross income
  - Weaning weight
  - Weaning rate
  - Calf price
  - Cull cow income
- 67.8% difference due to reduced cost

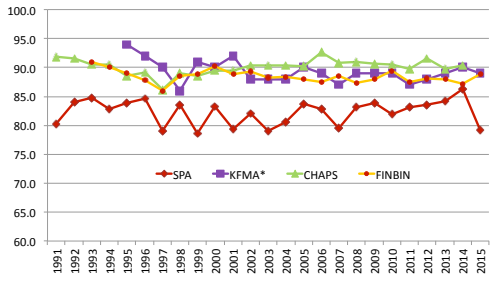
Value vs Cost of Added Weaning Weight

Pendell et al., 2015 (KFMA data)

- 1 lb of added weaning weight = $0.86 added cost per cow
- If weaning rate = 86%, average cost per lb of added weaning weight = $1.00
- 234 weekly sale reports (2010 – 2014) from Oklahoma National Stockyards for 550 to 650 lb calves indicated average value of added weight = $85.90 ± 33.20

Reproduction

Weaning Rate in Commercial Cow/ Calf Operations



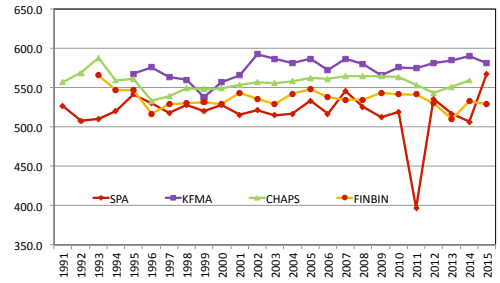
Reproductive Losses*

Item	Upper Midwest (FINBIN)	Southern Plains (SPA)	Average
Pregnancy	96.1	90.5	95.6
Pregnancy loss	2.2	3.0	2.6
Calf death loss	6.0	4.1	5.1
Weaning rate	87.9	83.4	85.7

*Five-year average from 2009 through 2013

Weaning Weight

Weaning Weight in Commercial Cow/Calf Operations

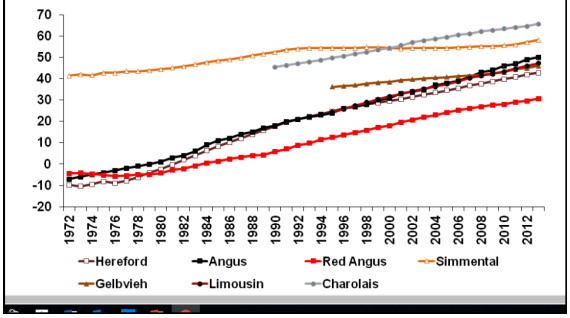


*Angus = adjusted weights for bull calves

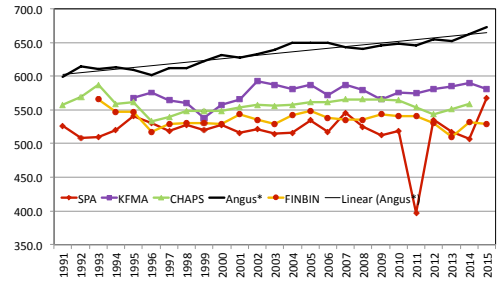
erence.com/bif2015/proceedings-by-speaker/10Kuehn-Thallman-across-breed-pg92-124.pdf

Figure 2. Relative genetic trends for weaning weight (lb) of the seven most highly used beef breeds (2a) and all breeds that submitted 2015 trends (2b) adjusted for birth year 2013 using the 2015 across-breed EPD adjustment factors.

2a.

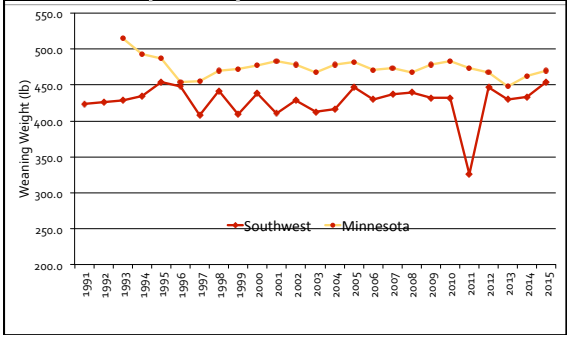


Weaning Weight in Commercial Cow/Calf Operations



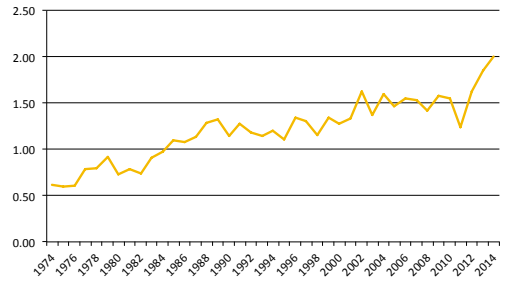
*Angus = adjusted weights for bull calves

Pounds Weaned per Exposed Female



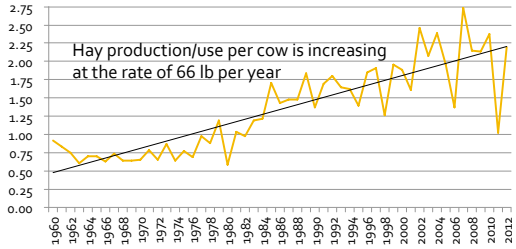
Are cattle more forage efficient?

Hay Acres Per Beef Cow: Oklahoma



Hay Production: Oklahoma

Tons Per Beef Cow



Caution: Cattle are Changing!

Efficiency and Milk
Bayliff, 2016

Diet Fed, lb (DM) / d	Kcal NE_m · (kg $BW^{0.75}$)$^{-1}$ · hd^{-1} · d^{-1}	% NRC
17.6	118	67
21.8	138	82
26.0	154	96
29.3	172	107
31.7	187	112

Figure 2. Cow BCS

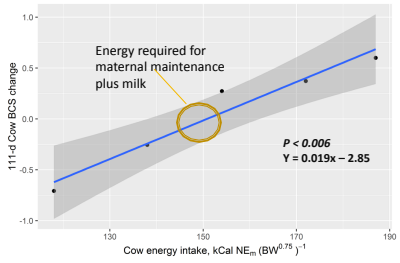


Figure 3. Milk production

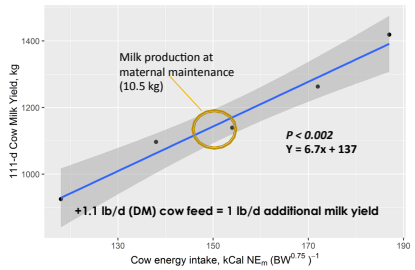
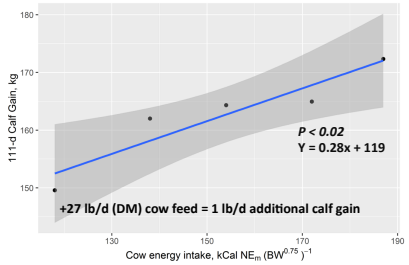


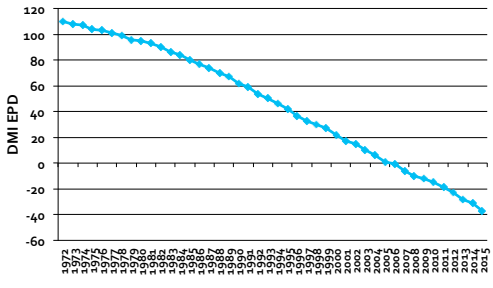
Figure 6: Calf BW gain



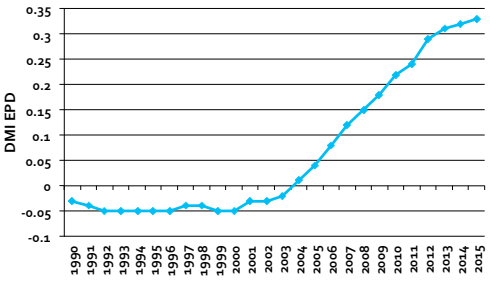
Summary

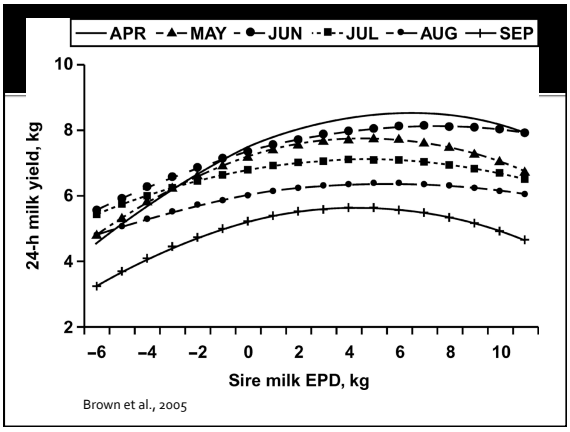
- Commercial cow/calf segment has contributed immensely to dramatic improvement in post-weaning performance
- In the meantime, there is no evidence that commercial cow efficiency has improved in a "sell at weaning" context
- More data is needed to determine if genetic capacity for weaning weight is limited by the environment on commercial operations (do indexes need to be adjusted?)
- More milk is not the answer
- Over the next 20 years, the commercial cow/calf segment should shift focus more toward minimizing cost rather than increasing production
  - Forage utilization efficiency
  - Improvement in fertility (especially in the South)
  - Reduced calf death loss (especially in the North)

Genetic Trend For $EN



Genetic Trend For Dry Matter Intake Angus





Brown et al., 2005

Increasing risk/frequency of cases where:

a) forage resources limit the expression of genetic potential for milk

b) production costs have increased because the "environment" has been artificially modified to fit the cows

SUSTAINED COW FERTILITY (SCF)

The Sustained Cow Fertility (SCF) results, reported in percentage units, are oriented such that larger breeding values reflect sires whose daughters calve annually for more years.