Adding Value with Fixed-time AI and High Accuracy Sires

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Project Background (Graphical Example)

Time and synchronize AI

Limited Sire Pool

	Herd 1 (24 cows)	Herd 2 (36 cows)	Herd 3 (275 cows)	Herd 4 (11 cows)	Herd 5 (1117 cows)
70% conception rate	17 cows	25 cows	192 cows	8 cows	781 cows
3% death rate 3% rejected	16 calves	23 calves	180 calves	7 calves	734 calves
50% steer calves Pre - conditioning program	8 steer calves	12 steer calves	90 steer calves	4 steer calves	367 steer calves

418 co-mingled half-sibs
All age within 20 days of each other

Feedlot

Processor

Questions

Can genetic and timed AI control:

a) management across farms
b) feed - yard production variability
c) processing variability

Experiment Background (Strategic Advantage)

Show-Me-Select Replacement™ Heifer Program

Since 1997……

- over 650 farms, 200 veterinarians, & 85k+ heifers
- 92 sales, 21k + heifers sold , & $24+ mil. in gross sales

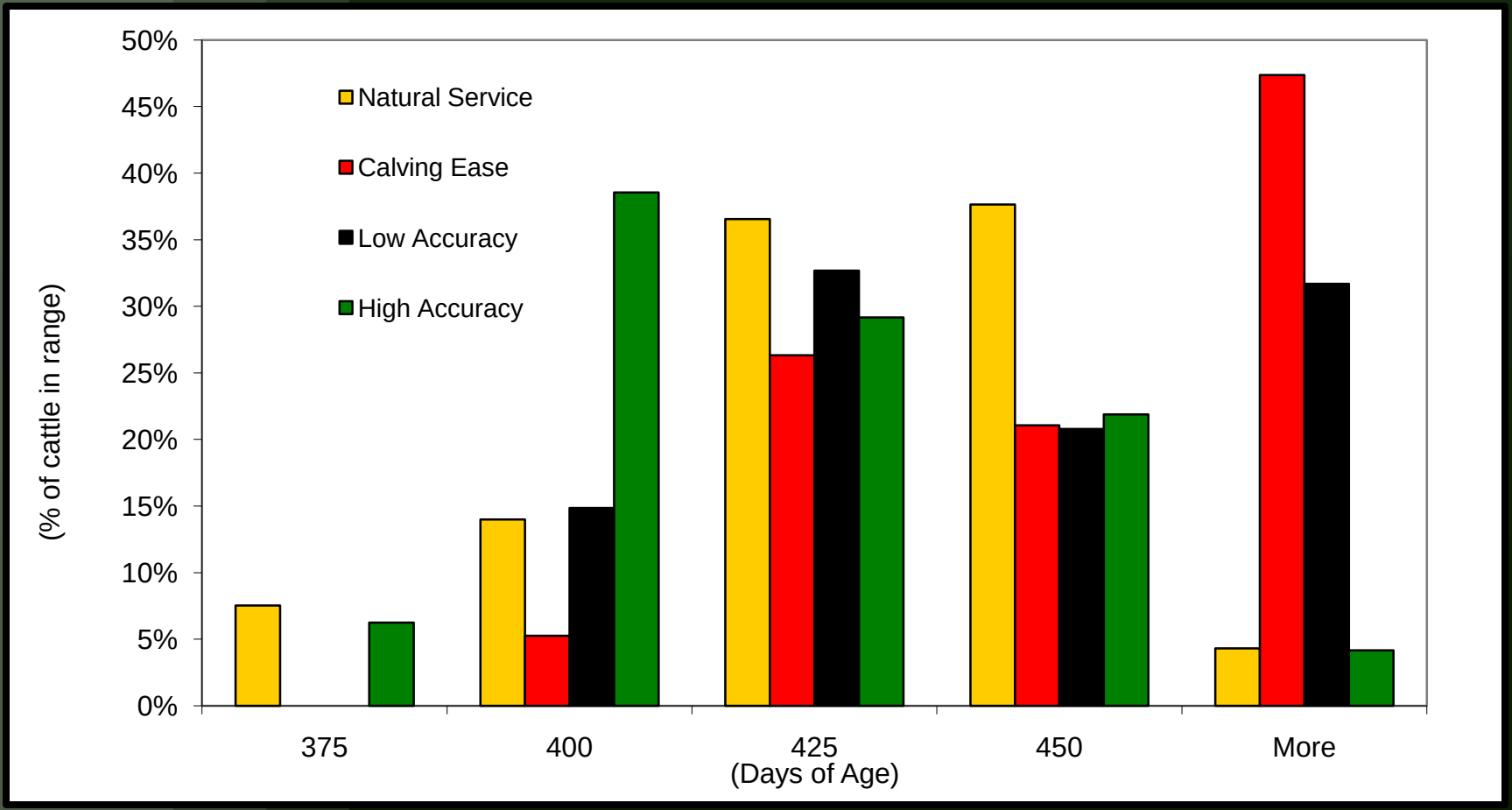
Summary Feedout Data

	2006		2008		2009		2010	
	HA(96)	NS (93)	HA (42)	NS (14)	HA(78)	NS(35)	HA(95)	NS(30)
Quality grade (for sire group of processed)								
% Prime	16%	0%	8%	0%	26%	0%	24%	10%
% CAB or better	67%	14%	73%	22%	83%	46%	81%	34%
% Choice or better	100%	68%	78%	28%	100%	83%	100%	69%
Yield grade (for sire group)								
Avg. yield grade	2.48	2.38	4.02	3.7	2.81	2.73	2.90	2.62
Treatment cost ($/hd)	$1.22	$11.88	$0.96	$2.97	$3.45	$3.90	NYA	NYA
Days on feed	154	178	155	171	156	173	NYA	NYA
Average daily gain	2.89	2.80	3.16	3.32	3.20	3.41	NYA	NYA

Feedlot Performance Factors
(2006 only)

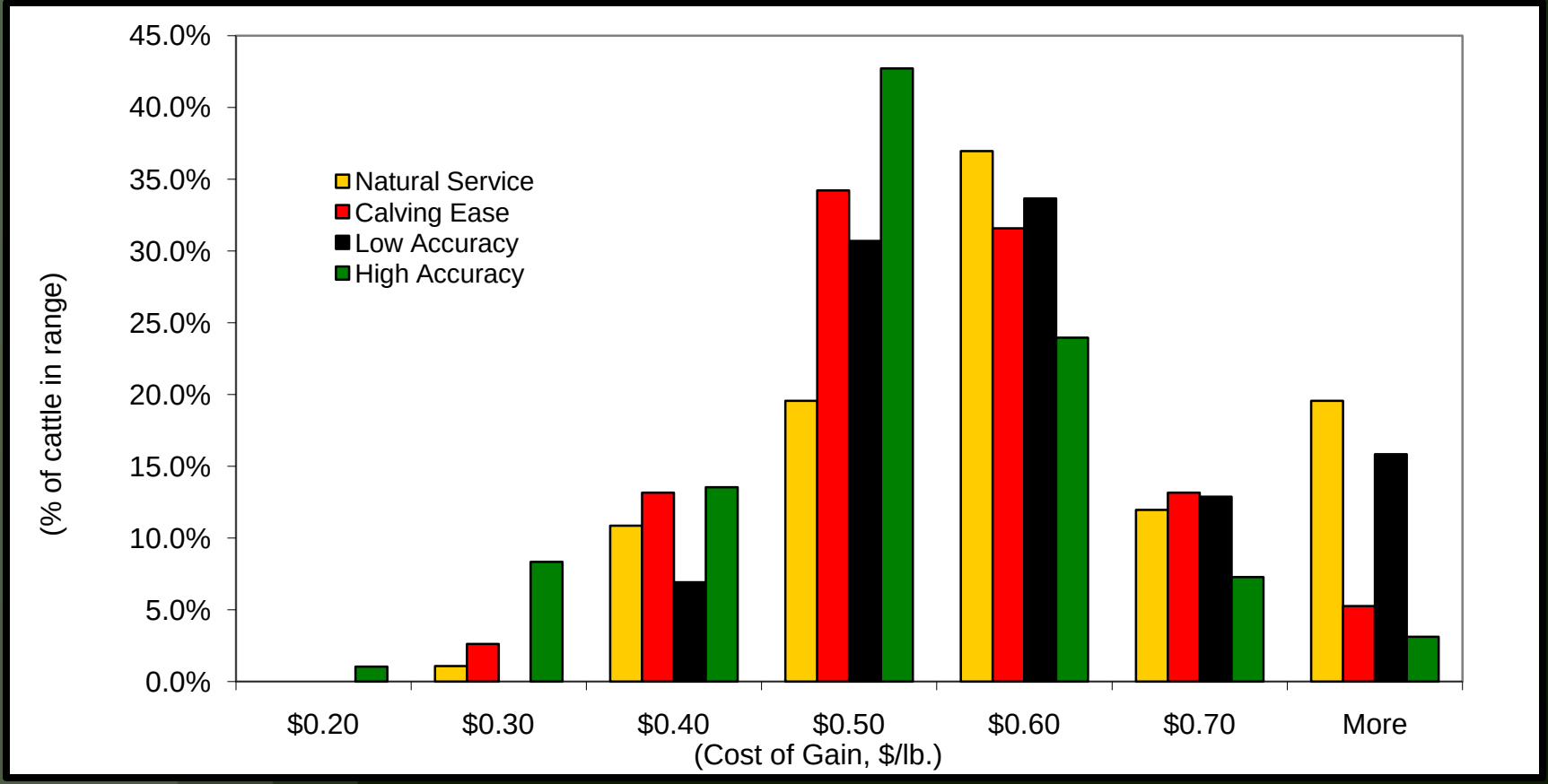
	Natural Service	Calving Ease	Low-accuracy	High-accuracy	All
Number of animals	93	36	101	96	328
In weight (lbs., average for sire group)	597	681	685	668	650
Days on feed (average for sire group)	178	177	163	154	165
Average daily gain (lbs., average for sire group)	2.8	2.49	2.75	2.89	2.78
Feed conversion (average for sire group)	6.55	7.49	7.14	6.91	6.93
Cost per lb. of gain (average for sire group)	$0.49	$0.52	$0.51	$0.49	$0.50
Outs (%, average for sire group)	0.00%	5.56%	0.00%	0.00%	0.61%
Treatment cost ($/head, average for sire group)	$11.88	$3.94	$3.20	$1.22	$5.17
No. Sick (% of sire group)	39.78%	11.11%	12.87%	4.17%	17.68%

Days of Age
(2006 only)



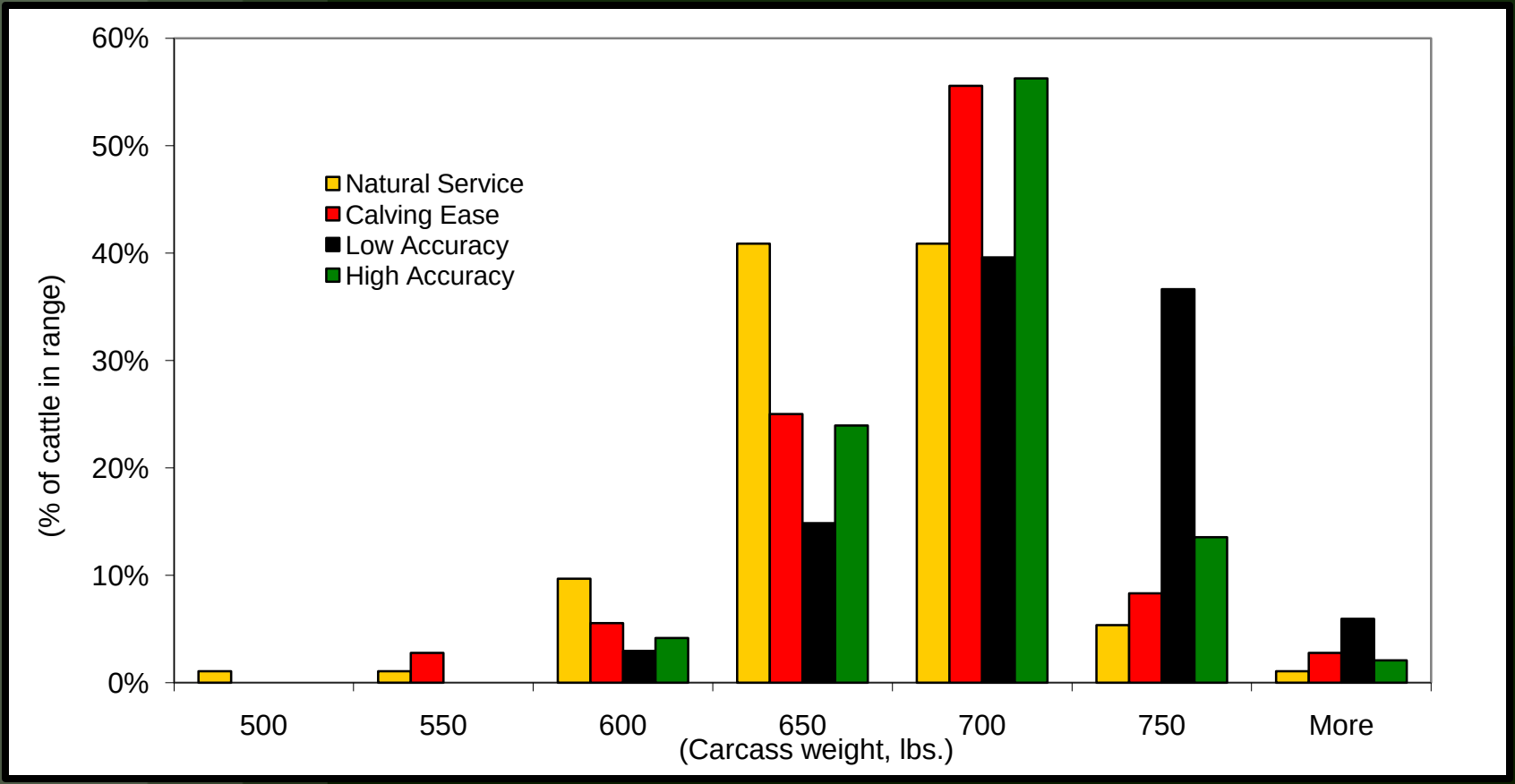
Cost of Gain Histogram

(2006 only)



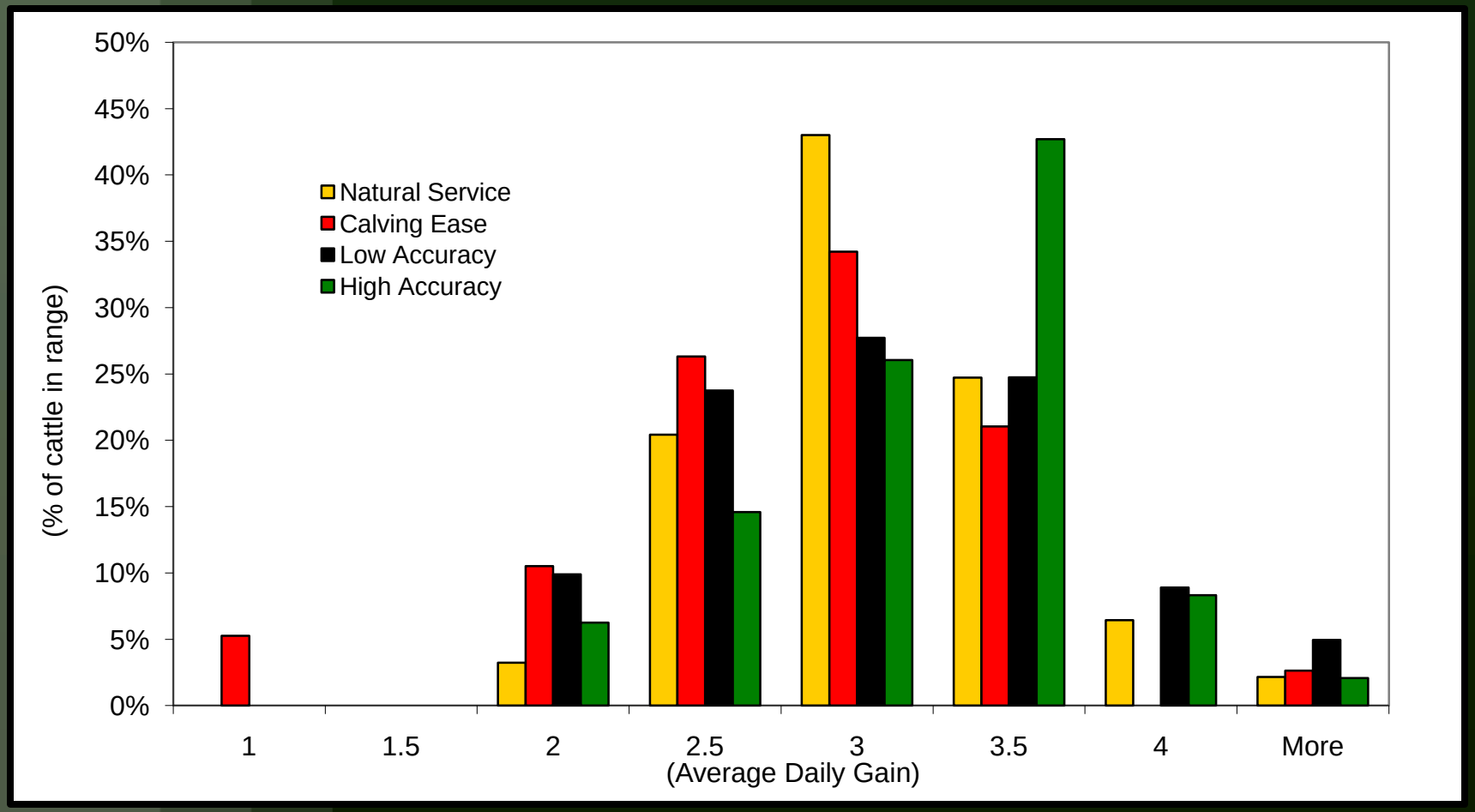
Carcass Weight Histogram

(2006 only)



Average Daily Gain

(2006 only)



Background

Show-Me-Select Replacement™ Heifer Program

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Tier 2 Heifers (new for fall 2009)

Heifers will be eligible to qualify for Tier 2 in the Show-Me-Select Replacement Heifer Program based on minimum accuracies of the maternal grandsire at the time of sale.

Trait	Accuracy
Calving ease (direct)	.65
Calving ease (maternal)	.30
Weaning weight	.75
Carcass weight	.20
Marbling	.20

Sires require specific EPD levels already

2010 Steer Performance Data
University of Missouri

Sire group	MGS	Number of steers	% CAB/Prime	
High Accuracy	High Accuracy	47	79%	83%
High Accuracy	Low Accuracy	25	96%	
High Accuracy	Natural Service	17	76%	
Low Accuracy	High Accuracy	10	60%	64%
Low Accuracy	Low Accuracy	1	100%	
Low Accuracy	Natural Service	--	--	
Natural Service	High Accuracy	15	40%	34%
Natural Service	Low Accuracy	6	50%	
Natural Service	Natural Service	8	13%	

Value of High Accuracy Half-sib Heifers

Economic value of a bred heifer having five calves			Discount Factor	8%	
Year	Net Cash Flow	Age of dam adjustment	Adjusted annual net cash income	Discount factor (8%)	Discounted value
2009	$141	81%	$114	0.857	$98
2010	$119	83%	$98	0.794	$78
2011	$131	123%	$161	0.735	$118
2012	$132	122%	$161	0.681	$110
2013	$135	133%	$180	0.630	$113
Value of cull cow (5th. calf)	$636			0.630	$401
Total cash income	$1,294		Adjusted time value of money (8%)		$918

Economic value of a bred heifer having seven calves & better calf consistency			Discount Factor	8%	
Year	Net Cash Flow	Age of dam adjustment	Adjusted annual net cash income	Discount factor (8%)	Discounted value
2009	$141	98%	$138	0.857	$118
2010	$119	110%	$130	0.794	$104
2011	$131	120%	$157	0.735	$116
2012	$132	120%	$159	0.681	$108
2013	$135	120%	$162	0.630	$102
2014	$159	110%	$175	0.583	$102
2015	$162	110%	$178	0.540	$96
Value of cull cow (7th. calf)	$665			0.540	$359
Total cash income	$1,643		Adjusted time value of money (8%)		$1,105

Economic value of a HA bred heifer having seven calves			Discount Factor	8%	
Year	Net Cash Flow	Age of dam adjustment	Adjusted annual net cash income	Discount factor (8%)	Discounted value
2009	$171	98%	$167	0.857	$143
2010	$149	110%	$163	0.794	$130
2011	$161	120%	$193	0.735	$142
2012	$162	120%	$195	0.681	$132
2013	$165	120%	$198	0.630	$125
2014	$189	110%	$208	0.583	$121
2015	$192	110%	$211	0.540	$114
Value of cull cow (7th. calf)	$665			0.540	$359
Total cash income	$1,853		Adjusted time value of money (8%)		$1,267

Opportunities & Challenges

Enhanced data collection

- Need better feedlot productivity and performance data to understand cost advantages
- Need more observations
  - Need a vehicle by which to blow-up pilot study
    - Entity must coordinate pooling of calves and coordinating genetics/breeding

Producer interest in retaining ownership

- Sale barn mentality
  - Buyers willing to buy from sale barn, if the calves are identified

Skills

- Adoption of AI & access to large animal vets