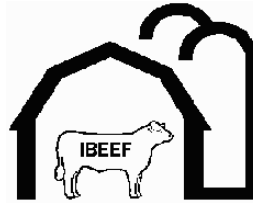


**2006-2007**  
**Indiana**  
**Beef**  
**Evaluation and**  
**Economics**  
**Feeding Program**



**IBEEF Description**



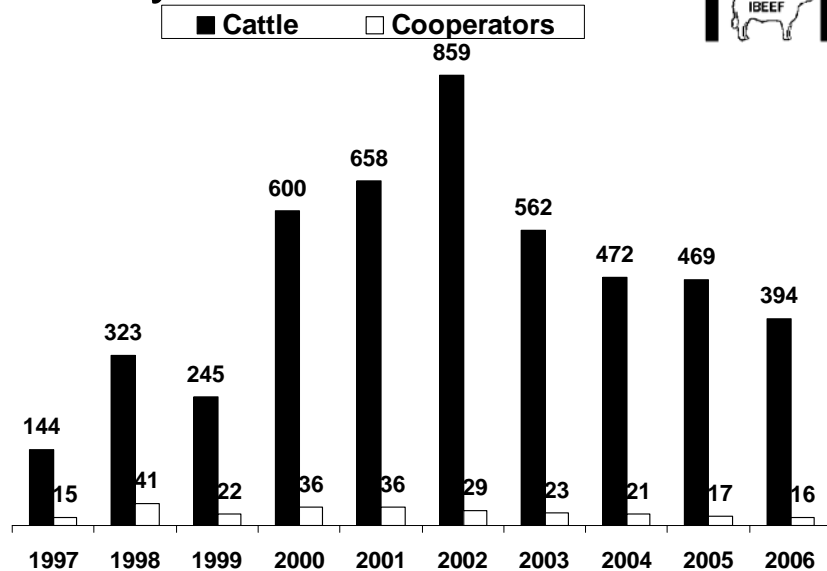
IBEEF is a steer and heifer feedout program that provides Indiana producers with a way to place cattle on feed and gather performance, carcass, and economic information to make genetic and management improvements in their herd. Cooperators receive individual and group feedlot performance, feedlot costs, and individual and group carcass information, including quality and yield grade, ribeye area, fat thickness, carcass weight, etc. IBEEF also allows producers to compare sires, as well as evaluate alternative marketing strategies and their impact upon profitability. The program also helps to improve the reputation of producer cattle by establishing a database of feedlot performance and carcass merit on their calves.

## 2006-2007 IBEEF Participation



- 16 cooperators
- 370 steers and 24 heifers
- Weaned at least 30 days before delivery
- Delivered November 13 and December 3, 2006
- 317 Steers fed in Indiana
  - G&D Smoker Farm, Wanatah, IN
- 53 Steers and 24 Heifers fed in Iowa
  - Gregory Feedlots, Tabor, IA

## History of Fall IBEEF



## Vaccination Requirements



### **At weaning or 2 weeks prior:**

- Four-way respiratory virus (IBR, BVD, PI3, and BRSV), may be killed or modified live (modified live preferred)
- Seven-way clostridial vaccine
- Pasturella vaccine

### **Two weeks before delivery:**

- Repeat four-way respiratory virus vaccine (modified live)

## 2006-2007 IBEEF Participation



- Sire breeds represented: Angus, Charolais, Gelbvieh, Gelbvieh Balancer, Hereford, Red Angus, Shorthorn, SimAngus, Simmental, Composite, and Cross
- Color: Black/BWF 74%, Red/RWF 12%, White 7%, Smoke 5%, Brown 1%, Gray 1%, Roan 1%

## Feedlot Performance



	Steer <u>Nov</u>	Steer <u>Dec</u>	Heifer <u>Dec</u>
Delivery Point Weight, lbs.	643	661	680
Feedlot In Weight, lbs.	621	644	656
Harvest Weight, lbs.	1296	1164	1100
ADG	3.24	3.23	2.99
Days on Feed	209	162	150
Age at Harvest	458	438	415

## Carcass Characteristics



	Steer <u>Nov</u>	Steer <u>Dec</u>	Heifer <u>Dec</u>
Hot Carcass Weight, lbs.	829	715	677
Ribeye Area	13.5	12.9	11.9
Backfat	0.44	0.36	0.43
Yield Grade	2.9	2.4	2.8
% YG 1 and 2	48.9	79.2	62.5
% YG 4	4.7	0.0	0.0
% Choice and Prime	67.2	30.2	54.2
% CAB	14.8	1.9	0.0

## Calf Value At Delivery



<u>Delivery Point Weight, lbs.</u>	<u>\$/cwt Steer Nov</u>	<u>\$/cwt Steer Dec</u>	<u>\$/cwt Heifer Dec</u>
449 and below	\$107.50	\$102.50	\$97.50
450 - 499	\$105.00	\$100.00	\$95.00
500 - 549	\$102.50	\$97.50	\$92.50
550 - 599	\$100.00	\$95.00	\$90.00
600 - 649	\$97.50	\$92.50	\$87.50
650 - 699	\$95.00	\$90.00	\$85.00
700 - 749	\$92.50	\$87.50	\$82.50
750 - 799	\$90.00	\$85.00	\$80.00
800 and above	\$87.50	\$82.50	\$77.50
Avg. Weight	643	661	680
Avg. \$/cwt	\$96.01	\$90.23	\$84.50

## Economics



	<u>Steer Nov</u>	<u>Steer Dec</u>	<u>Heifer Dec</u>
Feed Cost/cwt Gain	\$46.87	\$56.01	\$62.40
Nonfeed Cost/cwt Gain	\$16.30	\$23.59	\$24.72
Total Cost/cwt Gain	\$63.17	\$79.60	\$87.13
Carcass Price, \$/cwt	\$145.35	\$152.21	\$152.27
Sale Value	\$1,204.71	\$1,112.10	\$1,055.72
Calf Value	\$617.36	\$596.39	\$574.60
Profit	\$164.79	\$104.60	\$99.61
BE Feeder Calf Value/cwt	\$122.22	\$106.75	\$99.51

## IBEEF Cattle Compared to 2005 NBQA Native



	Steer <u>Nov</u>	Steer <u>Dec</u>	Heifer <u>Dec</u>	<u>NBQA</u>
% Prime	0.3	0.0	0.0	2.1
% Prem. Choice	14.8	1.9	0.0	18.9
% Low Choice	52.1	28.3	54.2	35.3
% Select	29.3	62.3	45.8	38.2
% Standard	3.5	7.5	0.0	5.5
% YG 1&2	48.9	79.2	62.5	49.1
% YG 4	4.7	0.0	0.0	12.6



Steers

## Steer Feedlot Performance (Cooperator Average)



	<u>Average</u>	<u>Range</u>
Delivery Point Weight, lbs.	658	565 to 848
Initial Value at Delivery, \$/cwt	\$94.08	\$82.50 to \$100.10
Feedlot In Weight, lbs.	636	548 to 785
Sale Weight	1260	1076 to 1337
Days on Feed	196	151 to 220
Daily Gain	3.19	2.78 to 3.54

## How Steers Were Sold Base Price and Grid



Sale Group	Sell Date	Base Price	Premiums			Discounts			Avg. \$/cwt
			Prime	CAB	Select	Standard	Y4		
01 IA	4/23	\$158.12	--	N/A	\$10.10	\$12.40	--	\$155.02	
03 IN	5/3	\$157.67	--	\$4.67	\$11.40	--	--	\$154.50	
04 IA	5/29	\$155.66	--	N/A	\$10.75	\$13.05	--	\$150.60	
06 IN	6/6	\$151.35	--	\$4.88	\$9.00	\$11.30	\$15.00	\$148.88	
07 IN	6/19	\$143.62	\$35.05	\$4.00	\$5.15	\$11.32	\$15.00	\$143.61	
08 IN	6/25	\$139.25	--	\$5.74	\$3.30	\$11.15	\$15.00	\$139.68	

Base price, premiums, and discounts are \$/cwt

Other Premiums: YG 1: \$6.50; YG 2: \$2.50

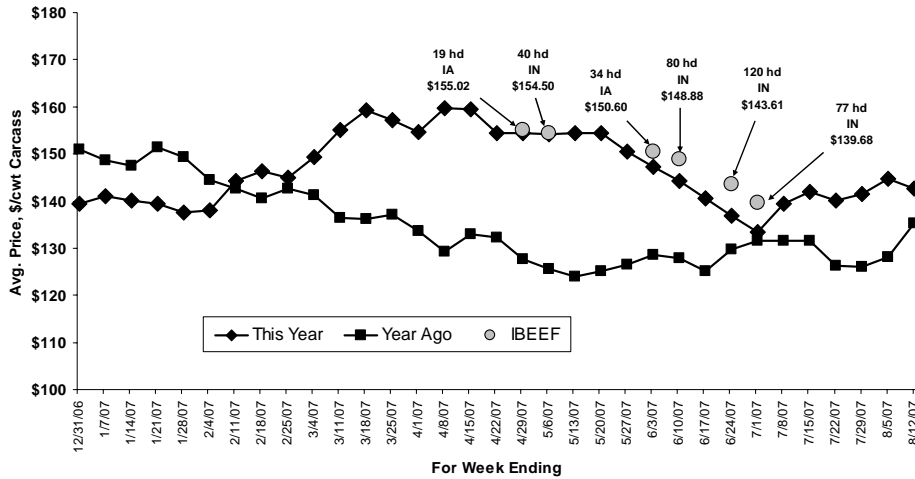
In addition, most Iowa cattle received an Age Verified Premium of \$25.00/hd

Other Discounts: YG 5: \$25.00 (06 IN); <525 lbs: \$21.50 (08 IN)

All cattle sold to Tyson Fresh Meats, Real Time Value Grid:

Iowa cattle – Denison, IA; Indiana cattle – Joslin, IL

## Steers Avg. Price, \$/cwt Carcass Weight Basis



Source: 5 Area Weekly Weighted Average Direct Slaughter Cattle (Texas/Oklahoma, Kansas, Nebraska, Colorado, Iowa/Minnesota feedlots), USDA Market News Service.

## Steer Carcass Characteristics (Cooperator Average)

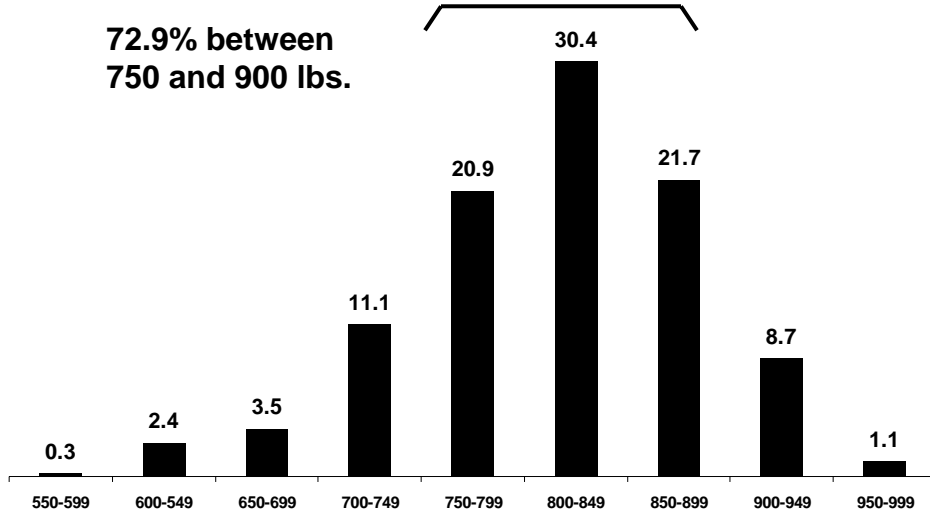


	<u>Average</u>	<u>Range</u>
Carcass Weight	798	660 to 859
Dressing %	63.3	60.5 to 65.1
Ribeye Area	13.3	11.8 to 14.6
REA/cwt carcass	1.67	1.57 to 1.99
Backfat	0.42	0.24 to 0.53
Yield Grade	2.7	1.7 to 3.2
% Choice or Prime	51.7	0.0 to 100.0
Sale Price, \$/cwt	\$146.53	\$141.74 to \$157.59
Sale Value/Hd.	\$1,174.57	\$1000.40 to \$1,256.23

## Steers Carcass Weight



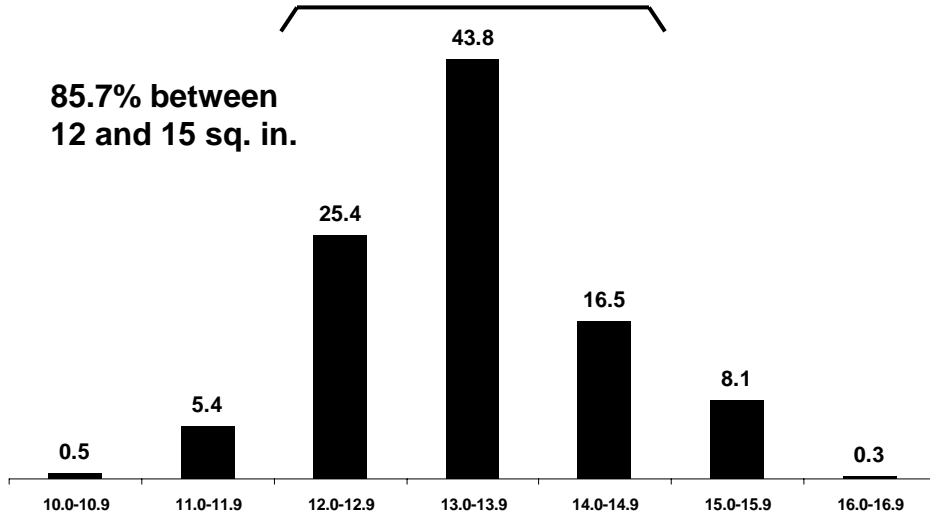
72.9% between  
750 and 900 lbs.



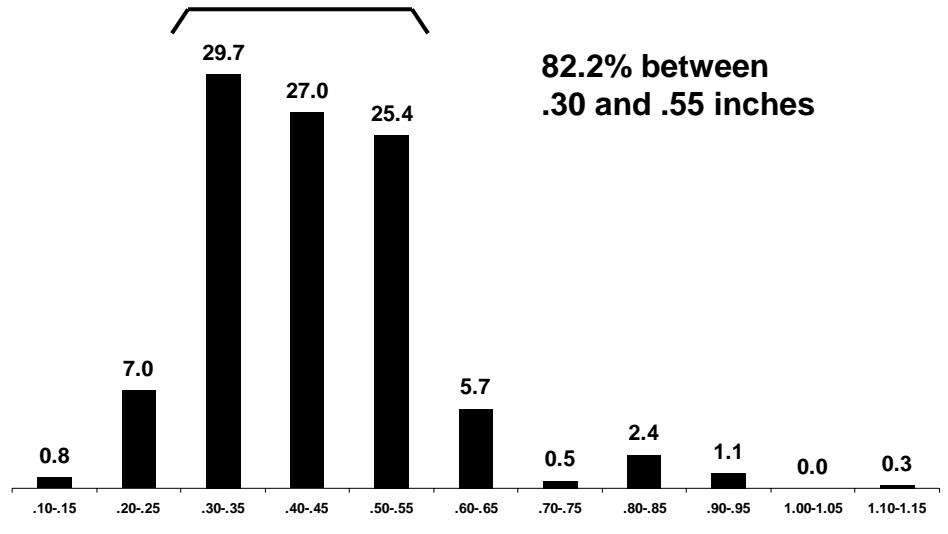
## Steers Ribeye Area



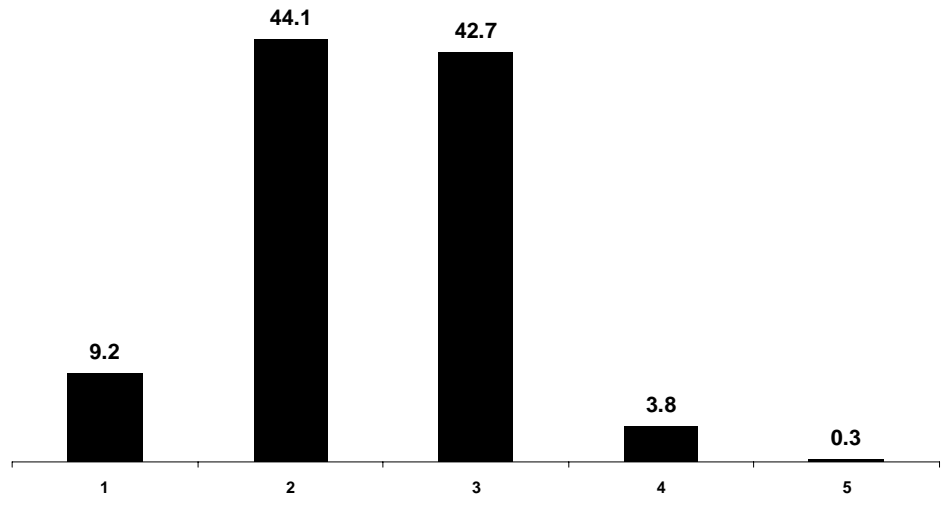
85.7% between  
12 and 15 sq. in.



# Steers Backfat



# Steers Yield Grade



## Steer Feeding Cost (Cooperator Average)



	<u>Average</u>	<u>Range</u>
Feed	\$308.92	\$243.66 to \$379.42
Medication	\$9.99	\$0.69 to \$47.85
Yardage	\$59.69	\$51.59 to \$63.99
Misc. (processing, trucking, data collection)	\$45.30	\$41.19 to \$54.76
<b>Total</b>	<b>\$423.90</b>	<b>\$379.09 to \$510.67</b>

## Steers - The Bottom Line (Cooperator Average)



	<u>Average</u>	<u>Range</u>
Feed Cost of Gain, \$/cwt	\$50.26	\$45.01 to \$69.67
Nonfeed Cost of Gain, \$/cwt	\$19.07	\$15.50 to \$31.59
Total Cost of Gain, \$/cwt	\$69.32	\$61.12 to \$93.92
Profit/Head	\$134.11	\$28.49 to \$217.42
Break Even Feeder Calf Value, \$/cwt	\$115.20	\$85.82 to \$132.14

## Break Even Feeder Calf Value



Calculation:

$$\frac{\text{Harvest Sale Value} - \text{Feedlot Costs}}{\text{Calf Weight at Delivery}}$$

Example for Steers:

Harvest Sale Value = 812 lbs x \$146.33/cwt = \$1,188.20

Feedlot Costs = \$420.93

Net = \$1,188.20 - \$420.93 = \$767.27

Calf Weight at Delivery = 646 lbs

Break Even Calf Value = \$767.27/646 lbs = \$118.77/cwt

## Profit Groups



- Based on initial assigned feeder calf value at delivery, feeding costs, and harvest sale value, cattle were divided into profit group quartiles (92 or 93 steers/group)
- Profit = Sale Value - Feedlot Costs - Calf Value
- Example:  
Profit = \$1,188.20 - \$420.93 - \$614.36 = \$152.91

## Steer Profit Groups



<u>Profit Group</u>	<u>No. Steers</u>	<u>Profit \$/Hd.</u>	<u>Break Even Feeder Calf Value, \$/cwt</u>
1	93	\$259.14	\$135.97
2	92	\$184.30	\$124.22
3	92	\$132.08	\$116.84
4	93	\$49.18	\$102.99
Average		\$156.18	\$120.01

## Differences Between High And Low Profit Groups *Feedlot Performance*



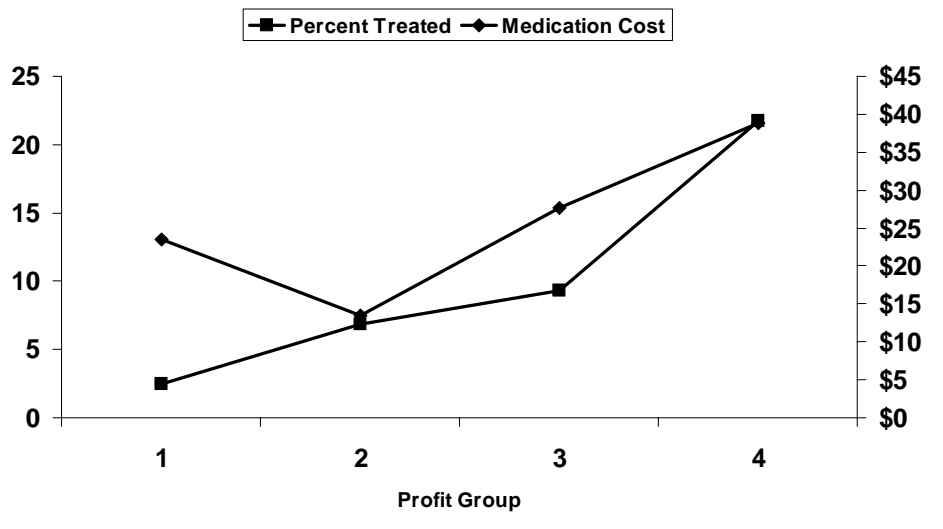
	<u>High vs. Low</u>
Delivery Point Weight, lbs.	652 vs. 641
Start Weight, lbs.	637 vs. 617
% Shrink (delivery - feedlot in)	-2.28 vs. -3.84
Final Weight, lbs.	1339 vs. 1205
Feedlot Daily Gain	3.54 vs. 2.92
Medication Cost	\$1.01 vs. \$14.64
Total Feedlot Cost	\$421.15 vs. \$421.04
Cost of Gain, \$/cwt	\$60.17 vs. \$73.32
Days on Feed	199 vs. 203

## Differences Between High And Low Profit Groups *Carcass Characteristics*



	<u>High vs. Low</u>
Hot Carcass Weight, lbs.	855 vs. 760
Ribeye Area	13.8 vs. 12.8
Backfat	0.43 vs. 0.45
% Yield Grade 4	0.0 vs. 12.9
% Yield Grade 1 and 2	47.3 vs. 51.6
% Choice or Prime	91.4 vs. 35.5
Carcass Price, \$/cwt	\$152.51 vs. \$140.84

## Impact of Health on Profit



## % of Steers in Each Category Which are in the 4 Profit Groups



<u>Category</u>	<u>No. Steers</u>	<u>Profit Group</u>			
		<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>
<b>Breed of Sire</b>					
Angus	195	36.4	25.6	21.5	16.4
Charolais	34	2.9	35.3	29.4	32.4
Cross	19	15.8	26.3	26.3	31.6
Gelbvieh	17	5.9	23.5	47.1	23.5
Gelbvieh Balancer	15	13.3	6.7	26.7	53.3
Other Breeds	17	17.6	17.6	11.8	52.9
Red Angus	10	0.0	20.0	30.0	50.0
Shorthorn	35	14.3	28.6	25.7	31.4
SimAngus	11	0.0	18.2	63.6	18.2
Simmental	17	41.2	17.6	11.8	29.4

"Other Breeds" = Breeds with fewer than 10 steers.  
Includes Composite (8 steers), Hereford (8), and Unknown (1).

## % of Steers in Each Category Which are in the 4 Profit Groups



<u>Category</u>	<u>No. Steers</u>	<u>Profit Group</u>			
		<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>
<b>Sale Group</b>					
01 IA 4/23	19	5.3	21.1	31.6	42.1
03 IN 5/3	40	57.5	27.5	15.0	0.0
04 IA 5/29	34	2.9	14.7	23.5	58.8
06 IN 6/6	80	50.0	27.5	15.0	7.5
07 IN 6/19	120	17.5	30.8	33.3	18.3
08 IN 6/25	77	9.1	16.9	26.0	48.1



## Heifers

### Heifer Feedlot Performance (Cooperator Average)



	<u>Average</u>	<u>Range</u>
Delivery Point Weight, lbs.	672	663 to 682
Initial Value at Delivery, \$/cwt	\$84.73	\$84.45 to \$85.00
Feedlot In Weight, lbs.	658	656 to 661
Sale Weight	1084	1064 to 1103
Days on Feed	153	149 to 157
Daily Gain	2.80	2.57 to 3.02

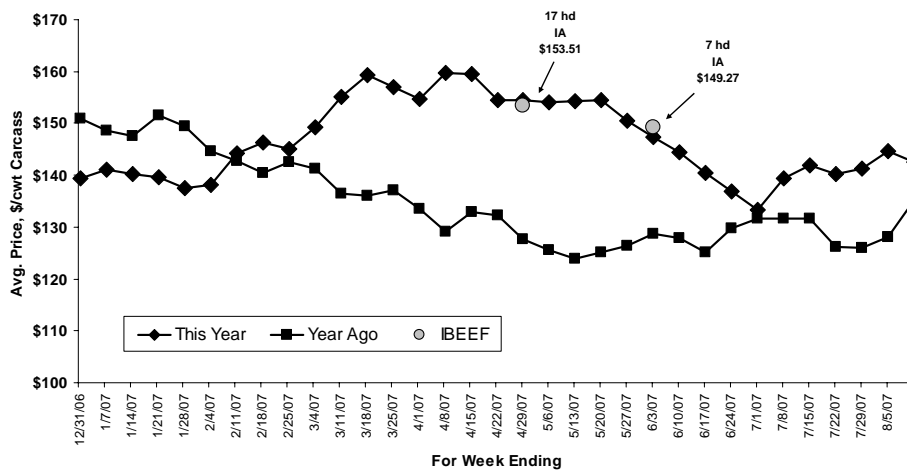
## How Heifers Were Sold Base Price and Grid



Sale Group	Sell Date	Base Price	Premiums		Discounts			Avg. \$/cwt
			Prime	CAB	Select	Standard	Y4	
02 IA	4/23	\$155.70	--	N/A	\$10.10	--	--	\$153.51
05 IA	5/29	\$154.34	--	N/A	\$10.75	--	--	\$149.27

Base price, premiums, and discounts are \$/cwt  
 Other Premiums: YG 1: \$6.50, YG 2: \$2.50  
 In addition, all cattle received an Age Verified Premium of \$25.00/hd  
 All cattle sold to Tyson Fresh Meats, Real Time Value Grid - Denison, IA

## Heifers Avg. Price, \$/cwt Carcass Weight Basis



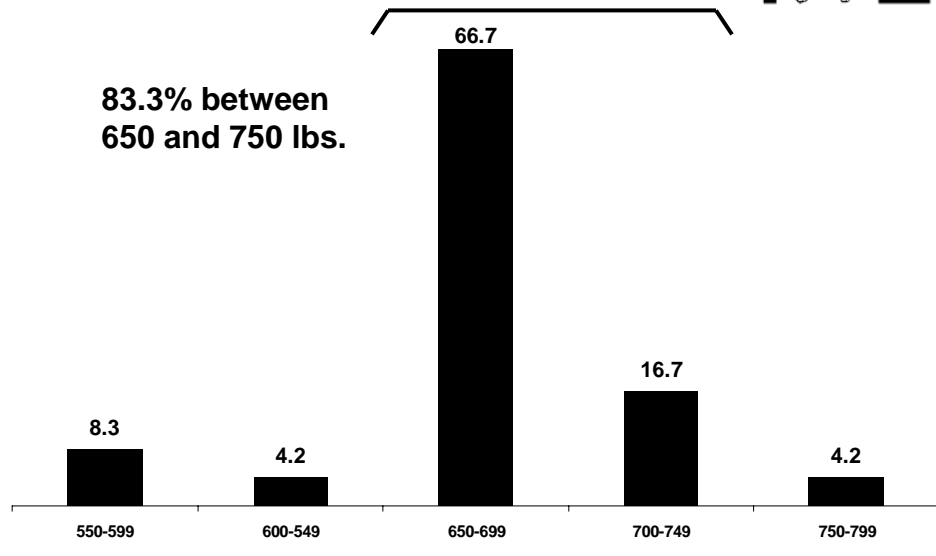
Source: 5 Area Weekly Weighted Average Direct Slaughter Cattle (Texas/Oklahoma, Kansas, Nebraska, Colorado, Iowa/Minnesota feedlots), USDA Market News Service.

## Heifer Carcass Characteristics (Cooperator Average)



	<u>Average</u>	<u>Range</u>
Carcass Weight	652	622 to 682
Dressing %	60.1	58.4 to 61.8
Ribeye Area	11.4	10.7 to 12.0
REA/cwt carcass	1.74	1.72 to 1.77
Backfat	0.43	0.42 to 0.43
Yield Grade	2.9	2.8 to 3.0
% Choice or Prime	75.0	50.0 to 100.0
Sale Price, \$/cwt	\$154.09	\$151.90 to \$156.27
Sale Value/Hd.	\$1,028.75	\$996.39 to \$1,061.12

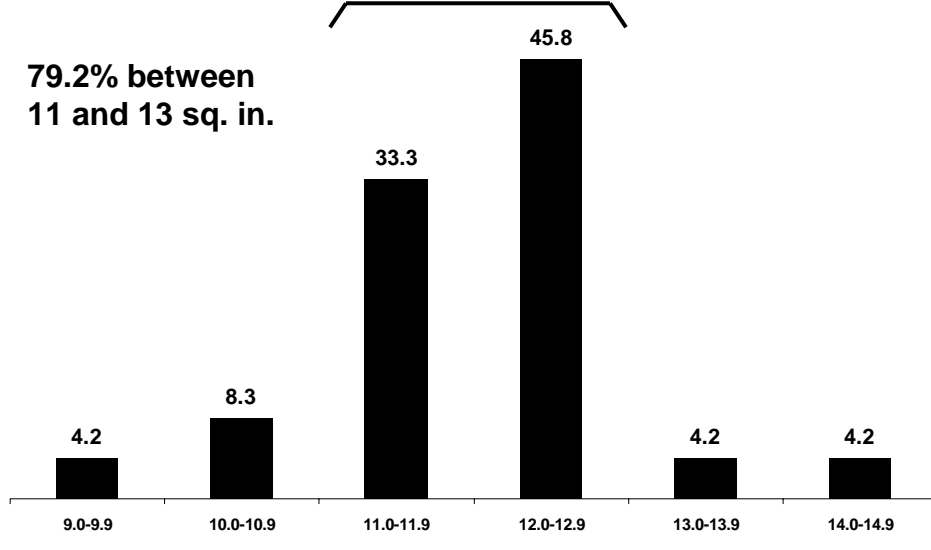
## Heifers Carcass Weight



# Heifers Ribeye Area



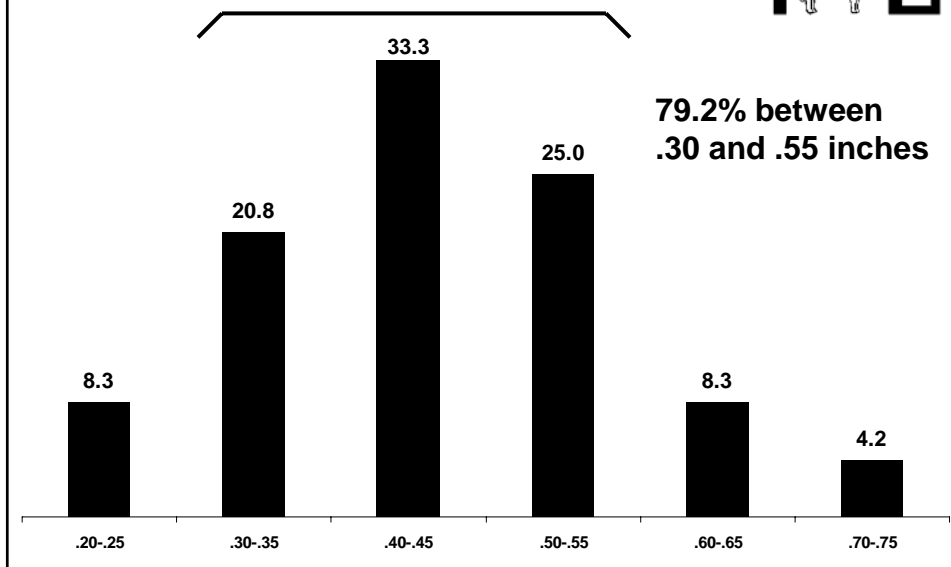
79.2% between  
11 and 13 sq. in.



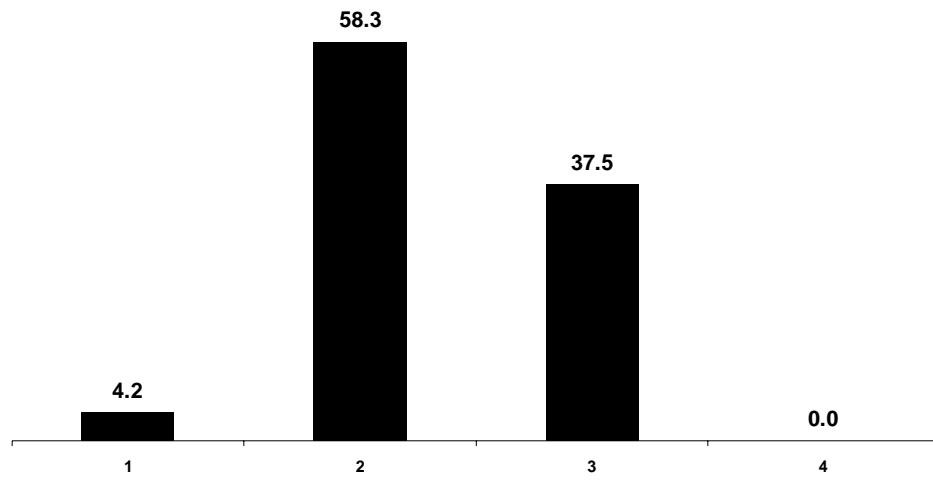
# Heifers Backfat



79.2% between  
.30 and .55 inches



## Heifers Yield Grade



## Heifer Feeding Cost (Cooperator Average)



	<u>Average</u>	<u>Range</u>
Feed	\$274.80	\$272.31 to \$277.29
Medication	\$50.45	\$10.69 to \$90.21
Yardage	\$52.24	\$50.85 to \$53.63
Misc. (processing, trucking, data collection)	\$41.89	\$40.09 to \$43.69
<b>Total</b>	<b>\$419.38</b>	<b>\$373.94 to \$464.82</b>

## Heifers - The Bottom Line (Cooperator Average)



	<u>Average</u>	<u>Range</u>
Feed Cost of Gain, \$/cwt	\$65.76	\$61.73 to \$69.78
Nonfeed Cost of Gain, \$/cwt	\$33.56	\$22.96 to \$44.16
Total Cost of Gain, \$/cwt	\$99.32	\$84.69 to \$113.95
Profit/Head	\$39.99	-\$31.55 to \$111.54
Break Even Feeder Calf Value, \$/cwt	\$90.82	\$80.40 to \$101.25

## Heifer Profit Groups



<u>Profit Group</u>	<u>No. Heifers</u>	<u>Profit \$/Hd.</u>	<u>Break Even Feeder Calf Value, \$/cwt</u>
1	6	\$198.27	\$112.25
2	6	\$152.99	\$110.63
3	6	\$53.10	\$91.35
4	6	-\$5.91	\$83.82
Average		\$99.61	\$99.51

## Differences Between High And Low Profit Groups *Feedlot Performance*



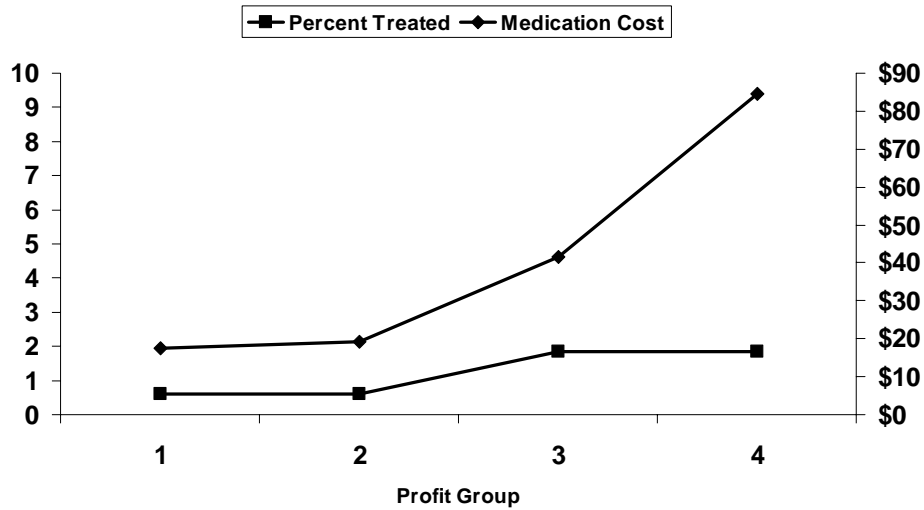
	<u>High vs. Low</u>
Delivery Point Weight, lbs.	700 vs. 685
Start Weight, lbs.	677 vs. 662
% Shrink (delivery - feedlot in)	3.22 vs. 3.30
Final Weight, lbs.	1140 vs. 1082
Feedlot Daily Gain	3.21 vs. 2.67
Medication Cost	\$2.92 vs. \$42.31
Total Feedlot Cost	\$364.17 vs. \$426.15
Cost of Gain, \$/cwt	\$78.69 vs. \$102.80
Days on Feed	145 vs. 157

## Differences Between High And Low Profit Groups *Carcass Characteristics*



	<u>High vs. Low</u>
Hot Carcass Weight, lbs.	713 vs. 652
Ribeye Area	12.4 vs. 11.1
Backfat	0.47 vs. 0.43
% Yield Grade 4	0.0 vs. 0.0
% Yield Grade 1 and 2	83.3 vs. 50.0
% Choice or Prime	100.0 vs. 33.3
Carcass Price, \$/cwt	\$157.56 vs. \$149.32

## Impact of Health on Profit



## % of Heifers in Each Category Which are in the 4 Profit Groups



Category	No. Heifers	Profit Group			
		1	2	3	4
Breed of Sire					
Angus	18	27.8	33.3	27.8	11.1
Other Breeds	6	16.7	0.0	16.7	66.7

“Other Breeds” = Breeds with fewer than 10 heifers.  
Includes Gelbvieh (2 heifers), Red Angus (2), Gelbvieh Balancer (1), and Simmental (1).

## % of Heifers in Each Category Which are in the 4 Profit Groups



<u>Category</u>	<u>No. Heifers</u>	<u>Profit Group</u>			
		<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>
Sale Group					
02 IA 4/23	17	29.4	29.4	23.5	17.6
05 IA 5/29	7	14.3	14.3	28.6	42.9

## Factors That Affect Profitability



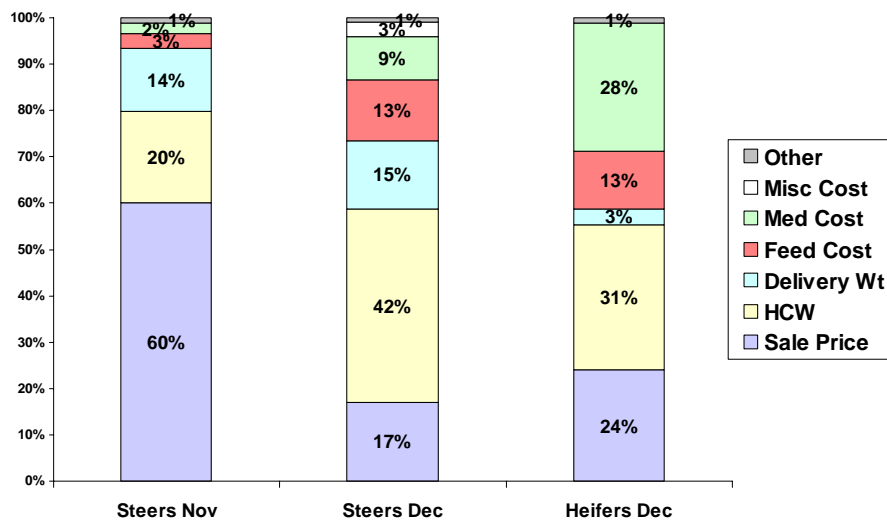
- Health
- Feedlot Daily Gain
- Harvest Weight
- Quality Grade
- Yield Grade

# Profit



- Profit = Value – (Feeding Cost + Calf Value)
- Steers:  
 $\$156.16 = \$1,191.45 - (\$420.93 + \$614.36)$
- Heifers:  
 $\$99.60 = \$1,055.72 - (\$381.52 + \$574.60)$

# Factors Affecting Variation in Profit



## Factors Affecting Variation in Profit



<ul style="list-style-type: none"> <li>Steers Nov</li> </ul>	<ul style="list-style-type: none"> <li>Steers Dec</li> </ul>	<ul style="list-style-type: none"> <li>Heifers Dec</li> </ul>
Profit = -1466.62 +8.35 Sale Price +1.40 HCW -0.61 Delivery Wt -1.09 Feed Cost -1.05 Med Cost	Profit = -1275.13 +7.08 Sale Price +1.53 HCW -0.58 Delivery Wt -1.00 Feed Cost -0.90 Med Cost -2.06 Misc Cost	Profit = -1496.25 +7.79 Sale Price +1.41 HCW -0.37 Delivery Wt -0.99 Feed Cost -1.20 Med Cost
R <sup>2</sup> = .988	R <sup>2</sup> = .990	R <sup>2</sup> = .989

## Factors Affecting Variation in Profit



- Steers Nov
  - \$1.00 ↑ in Sale Price ⇒ \$8.35 ↑ in Profit
  - 1 lb ↑ in HCW ⇒ \$1.40 ↑ in Profit
  - 1 lb ↑ in Delivery Wt ⇒ \$0.61 ↓ in Profit
  - \$1.00 ↑ in Feed Cost ⇒ \$1.09 ↓ in Profit
  - \$1.00 ↑ in Med Cost ⇒ \$1.05 ↓ in Profit

## Factors Affecting Variation in Profit



- Steers Dec

\$1.00 ↑ in Sale Price	⇒	\$7.08 ↑ in Profit
1 lb ↑ in HCW	⇒	\$1.53 ↑ in Profit
1 lb ↑ in Delivery Wt	⇒	\$0.58 ↓ in Profit
\$1.00 ↑ in Feed Cost	⇒	\$1.00 ↓ in Profit
\$1.00 ↑ in Med Cost	⇒	\$0.90 ↓ in Profit
\$1.00 ↑ in Misc Cost	⇒	\$2.06 ↓ in Profit

## Factors Affecting Variation in Profit



- Heifers Dec

\$1.00 ↑ in Sale Price	⇒	\$7.79 ↑ in Profit
1 lb ↑ in HCW	⇒	\$1.41 ↑ in Profit
1 lb ↑ in Delivery Wt	⇒	\$0.37 ↓ in Profit
\$1.00 ↑ in Feed Cost	⇒	\$0.99 ↓ in Profit
\$1.00 ↑ in Med Cost	⇒	\$1.20 ↓ in Profit

IBEEF Participation



Data



Information



Knowledge



Action



For more information  
about IBEEF:



- <http://www.ansc.purdue.edu/ibeeff/>
- Kern Hendrix, Purdue University (ANSC)
  - 765-494-4832
  - khendrix@purdue.edu
- Brad Shelton, Purdue CES
  - Washington County Extension Educator
  - 812-883-4601
  - sheltonb@purdue.edu