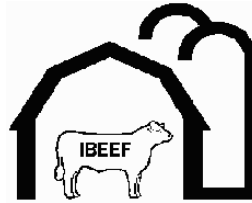


**2010-2011**  
**Indiana**  
**Beef**  
**Evaluation and**  
**Economics**  
**Feeding Program**



**IBEEF Description**



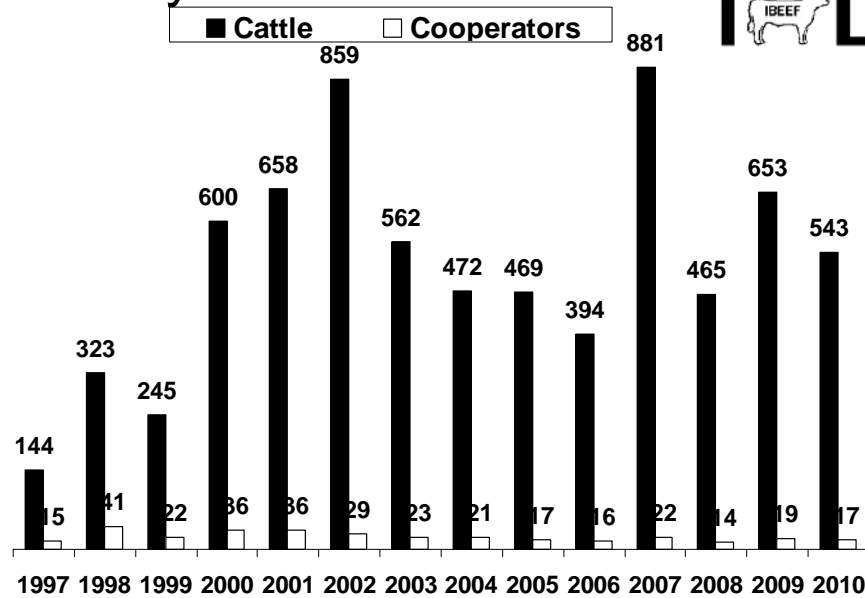
IBEEF is a steer and heifer feedout program that provides Indiana producers with a way to place cattle on feed and gather performance, carcass, and economic information to make genetic and management improvements in their herd. Cooperators receive individual and group feedlot performance, feedlot costs, 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.

## 2010-2011 IBEEF Participation



- 17 cooperators
- 391 steers and 152 heifers
- Weaned at least 30 days before delivery
- Delivered October 10 and 25, November 15, and December 6, 2010
- 158 Steers and 84 Heifers fed in Indiana
  - G&D Smoker Farm, Wanatah, IN
- 233 Steers and 68 Heifers fed in Iowa
  - Bentley East, Macedonia, IA
  - Highland Farms Cattle Company, Blockton, IA
  - S&B Farms, Macedonia, 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)

## 2010-2011 IBEEF Participation



- Sire breeds represented: Angus, Charolais, Gelbvieh, Gelbvieh Balancer, Hereford, Shorthorn, SimAngus, Simmental, Composite, and Cross
- Color: Black/BWF 83%, Red/RWF 8%, Gray/Smoke 4%, Brown/Chocolate 3%, White 3%

## Feedlot Performance



	<u>Steer</u>	<u>Heifer</u>
Delivery Point Weight, lbs.	651	666
Feedlot In Weight, lbs.	635	645
Harvest Weight, lbs.	1224	1118
ADG	3.39	3.23
Days on Feed	174	150
Age at Harvest	420	414

## Carcass Characteristics



	<u>Steer</u>	<u>Heifer</u>
Hot Carcass Weight, lbs.	759	689
Ribeye Area	12.7	12.1
Backfat	0.45	0.45
Yield Grade	2.9	2.8
% YG 1 and 2	50.1	57.2
% YG 4 and 5	4.3	2.0
% Choice and Prime	63.4	82.9
% CAB	9.7	19.7

## Calf Value At Delivery



Delivery Point <u>Weight, lbs.</u>	<u>\$/cwt</u> Steer	<u>\$/cwt</u> Steer	<u>\$/cwt</u> Heifer
	Oct&Nov	Dec	Oct&Nov
449 and below	\$115.00	\$120.00	\$103.00
450 - 499	\$113.00	\$118.00	\$101.00
500 - 549	\$111.00	\$116.00	\$99.00
550 - 599	\$109.00	\$114.00	\$97.00
600 - 649	\$107.00	\$112.00	\$95.00
650 - 699	\$105.00	\$110.00	\$93.00
700 - 749	\$103.00	\$108.00	\$91.00
750 - 799	\$101.00	\$106.00	\$89.00
800 and above	\$99.00	\$104.00	\$87.00
Avg. Weight	657	625	666
Avg. \$/cwt	\$105.21	\$111.60	\$92.91

## Economics



	<u>Steer</u>	<u>Heifer</u>
Feed Cost/cwt Gain	\$74.01	\$76.90
Nonfeed Cost/cwt Gain	\$19.88	\$20.52
Total Cost/cwt Gain	\$93.89	\$97.41
Carcass Price, \$/cwt	\$184.52	\$184.89
Sale Value	\$1,404.66	\$1,273.43
Total Cost	\$548.58	\$457.48
Calf Value	\$692.28	\$618.66
Profit	\$163.80	\$197.28
Delivery Weight	651	666
BE Feeder Calf Value/cwt	\$132.04	\$123.53

## IBEEF Cattle Compared to 2005 NBQA Native



	<u>Steer</u>	<u>Heifer</u>	<u>NBQA</u>
% Prime	1.0	0.7	2.1
% Prem. Choice	10.7	20.4	18.9
% Low Choice	51.7	61.8	35.3
% Select	34.5	17.1	38.2
% Standard	2.0	0.0	5.5
% YG 1&2	50.1	57.2	49.1
% YG 4	4.1	2.0	12.6



Steers

## Steer Feedlot Performance (Cooperator Average)



	<u>Average</u>	<u>Range</u>
Delivery Point Weight, lbs.	657	562 to 824
Initial Value at Delivery, \$/cwt	\$107.03	\$99.95 to \$114.19
Feedlot In Weight, lbs.	641	531 to 799
Sale Weight	1227	1156 to 1329
Days on Feed	174	157 to 202
Daily Gain	3.38	2.94 to 3.96

## How Steers Were Sold Base Price and Grid



Sale Group	Sell Date	Base Price	Premiums			Discounts			Avg. \$/cwt
			Prime	CAB	Select	Standard	Y4		
03 IA	4/4	\$199.23	--	N/A	\$3.50	--	--	\$199.33	
04 IA	4/4	\$199.65	\$15.59	\$2.72	\$3.50	--	\$12.46	\$199.92	
05 IA	4/11	\$196.90	--	N/A	\$4.37	--	--	\$195.18	
07 IN	4/25	\$190.00	--	\$3.00	\$5.00	\$20.00	\$15.00	\$187.55	
09 IA	5/10	\$186.07	--	N/A	\$6.17	--	--	\$187.00	
10 IA	5/10	\$185.67	\$15.34	N/A	\$6.17	\$19.58	\$12.46	\$184.04	
11 IA	5/10	\$186.19	--	\$2.72	\$6.17	--	--	\$185.41	
12 IA	5/17	\$183.87	--	N/A	\$6.25	\$19.58	--	\$181.26	
14 IN	6/6	\$174.00	\$18.00	\$3.00	\$7.00	--	\$15.00	\$171.58	
15 IA	6/14	\$175.86	--	\$3.28	\$5.75	--	\$12.46	\$174.72	

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

Other Premiums: YG 1: \$4.00; YG 2: \$2.00

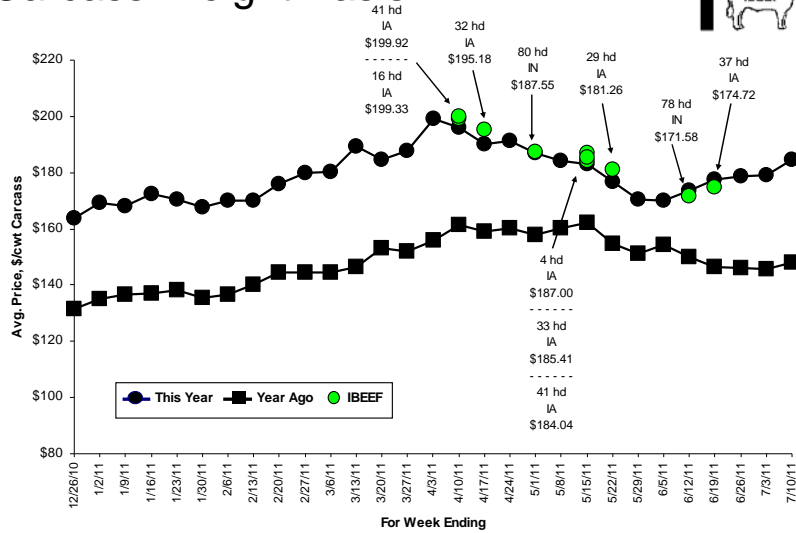
In addition, most Iowa cattle received an Age Verified Premium of \$15.00/hd (05 IA), \$12.00/hd (03 IA, 04 IA), or \$10.00/hd (other groups)

Other Discounts: 500-549 lbs: \$25.00 (14 IN); YG 5: \$19.38 (15 IA)

All cattle sold to Tyson Fresh Meats, True Value or Standard Grid:

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

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



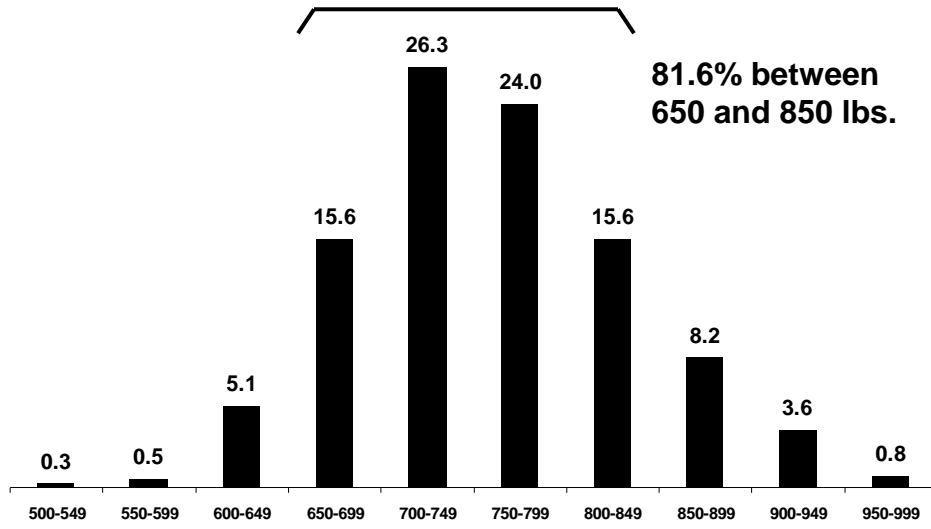
Source: 5 Area Weekly Weighted Average Direct Slaughter Cattle (Texas/Oklahoma, Kansas, Nebraska, Colorado, Iowa/Minnesota feedlots), USDA Market News Service.

## Steer Carcass Characteristics (Cooperator Average)

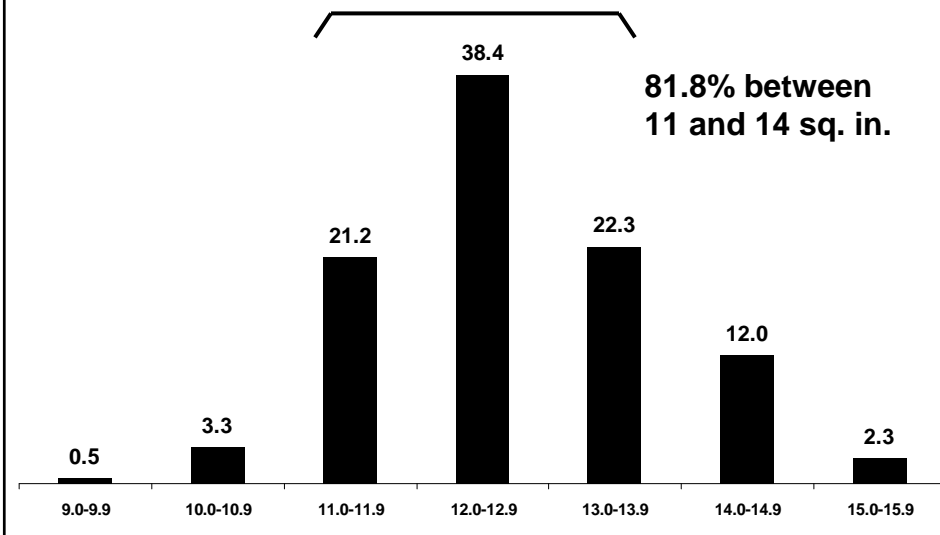


	Average	Range
Carcass Weight	762	705 to 841
Dressing %	62.0	60.8 to 63.4
Ribeye Area	12.7	11.5 to 13.7
REA/cwt carcass	1.68	1.55 to 1.81
Backfat	0.44	0.23 to 0.59
Yield Grade	2.9	2.2 to 3.6
% Choice or Prime	66.1	0.0 to 100.0
Sale Price, \$/cwt	\$183.27	\$174.83 to \$201.41
Sale Value/Hd.	\$1,400.06	\$1,304.17 to \$1,623.83

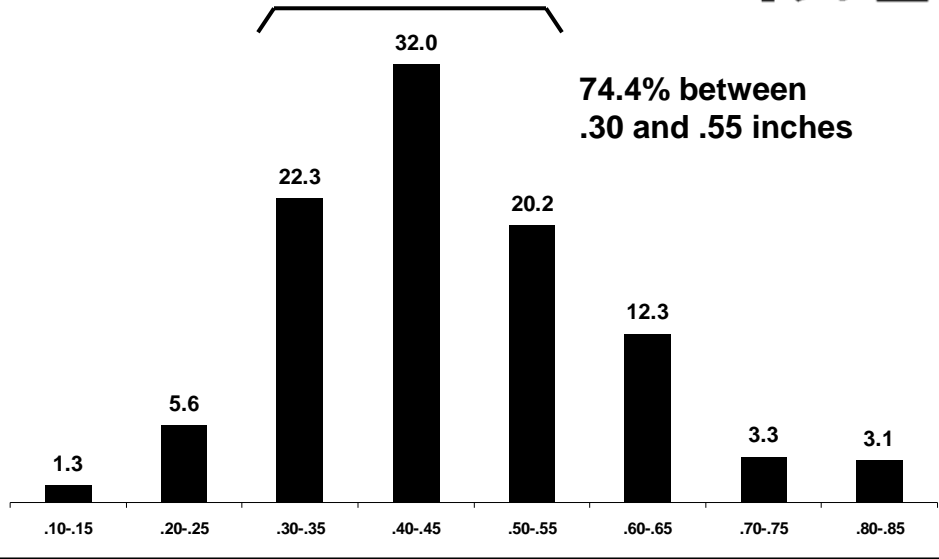
## Steers Carcass Weight



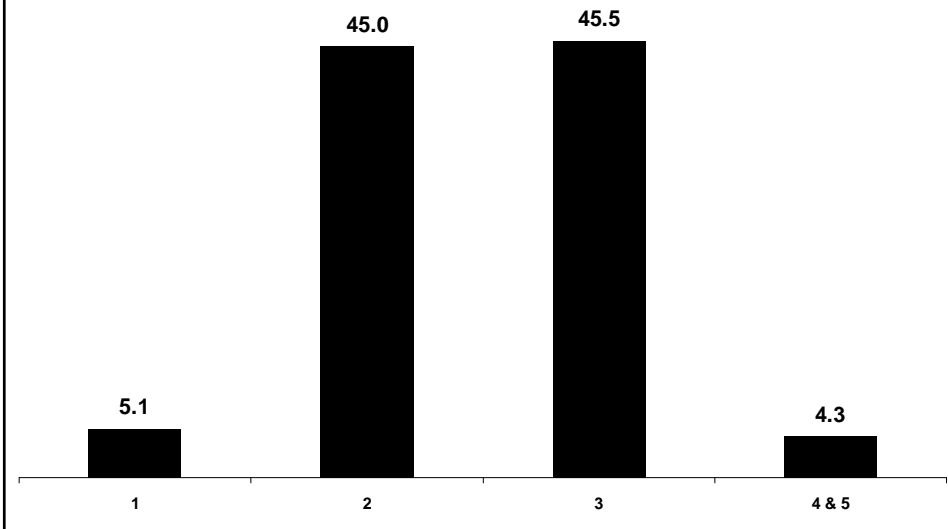
## Steers Ribeye Area



# Steers Backfat



# Steers Yield Grade



## Steer Feeding Cost (Cooperator Average)



	<u>Average</u>	<u>Range</u>
Feed	\$434.26	\$367.05 to \$472.26
Medication	\$5.75	\$0.00 to \$22.35
Yardage	\$55.16	\$48.00 to \$60.90
Misc. (processing, trucking, data collection)	\$52.70	\$44.50 to \$58.77
<b>Total</b>	<b>\$547.87</b>	<b>\$484.72 to \$596.29</b>

## Steers - The Bottom Line (Cooperator Average)



	<u>Average</u>	<u>Range</u>
Feed Cost of Gain, \$/cwt	\$74.38	\$67.40 to \$81.87
Nonfeed Cost of Gain, \$/cwt	\$19.71	\$17.11 to \$24.13
Total Cost of Gain, \$/cwt	\$94.09	\$86.42 to \$101.33
Profit/Head	\$151.28	\$18.29 to \$328.27
Break Even Feeder Calf Value, \$/cwt	\$130.03	\$113.12 to \$144.30

## 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 = 759 lbs x \$184.52/cwt = \$1,400.51

Feedlot Costs = \$548.58

Net = \$1,400.51 - \$548.58 = \$851.93

Calf Weight at Delivery = 651 lbs

Break Even Calf Value = \$851.93/651 lbs = \$130.86/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 (97 or 98 steers/group)
- Profit = Sale Value - Feedlot Costs - Calf Value
- Example:  
Profit = \$1,400.51 - \$548.58 - \$692.28 = \$159.65

## Steer Profit Groups



<u>Profit Group</u>	<u>No. Steers</u>	<u>Profit \$/Hd.</u>	<u>Break Even Feeder Calf Value, \$/cwt</u>
1	98	\$288.74	\$147.98
2	98	\$200.78	\$136.84
3	97	\$133.99	\$129.56
4	98	\$31.38	\$113.74
Average		\$163.72	\$132.03

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



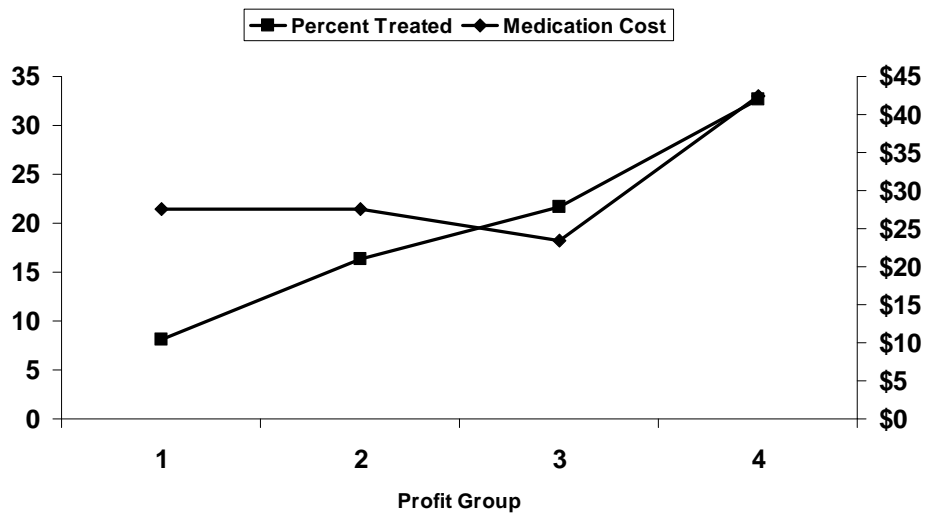
	<u>High vs. Low</u>
Delivery Point Weight, lbs.	683 vs. 619
Start Weight, lbs.	668 vs. 601
% Shrink (delivery - feedlot in)	-2.39 vs. -3.58
Final Weight, lbs.	1252 vs. 1188
Feedlot Daily Gain	3.58 vs. 3.10
Medication Cost	\$2.26 vs. \$13.86
Total Feedlot Cost	\$528.30 vs. \$576.12
Cost of Gain, \$/cwt	\$91.07 vs. \$99.03
Days on Feed	163 vs. 190

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



	<u>High vs. Low</u>
Hot Carcass Weight, lbs.	782 vs. 735
Ribeye Area	13.1 vs. 12.2
Backfat	0.46 vs. 0.45
% Yield Grade 4	1.0 vs. 11.2
% Yield Grade 1 and 2	56.1 vs. 51.0
% Choice or Prime	78.6 vs. 49.0
Carcass Price, \$/cwt	\$195.01 vs. \$172.96

## 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>
Breed of Sire					
Angus	177	26.0	28.8	27.1	18.1
Charolais	13	0.0	23.1	46.2	30.8
Gelbvieh	12	8.3	16.7	25.0	50.0
Gelbvieh Balancer	24	25.0	37.5	16.7	20.8
Hereford	24	0.0	0.0	29.2	70.8
Other Breeds	10	10.0	10.0	40.0	40.0
SimAngus	87	39.1	26.4	19.5	14.9
Simmental	34	23.5	17.6	20.6	38.2
Unknown	10	20.0	30.0	10.0	40.0

"Other Breeds" = Breeds with fewer than 10 steers.  
Includes Composite (5 steers), Cross (3), and Shorthorn (2).

## % 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>
Sale Group					
03 IA 4/4	16	87.5	12.5	0.0	0.0
04 IA 4/4	41	70.7	26.8	2.4	0.0
05 IA 4/11	32	34.4	53.1	12.5	0.0
07 IN 4/25	80	40.0	40.0	11.3	8.8
09 IA 5/10	4	75.0	25.0	0.0	0.0
10 IA 5/10	41	12.2	26.8	41.5	19.5
11 IA 5/10	33	3.0	36.4	45.5	15.2
12 IA 5/17	29	3.4	6.9	51.7	37.9
14 IN 6/6	78	2.6	10.3	24.4	62.8
15 IA 6/14	37	0.0	5.4	45.9	48.6



## Heifers

### Heifer Feedlot Performance (Cooperator Average)



	<u>Average</u>	<u>Range</u>
Delivery Point Weight, lbs.	636	571 to 747
Initial Value at Delivery, \$/cwt	\$94.28	\$90.07 to \$96.53
Feedlot In Weight, lbs.	618	556 to 718
Sale Weight	1095	1058 to 1179
Days on Feed	159	123 to 166
Daily Gain	3.04	2.47 to 3.79

## How Heifers Were Sold Base Price and Grid



Sale Group	Sell Date	Base Price	Premiums		Discounts		Avg. Y4	\$/cwt
			Prime	CAB	Select	Standard		
01 IA	1/31	\$168.52	--	\$3.28	\$5.14	--	\$12.46	\$168.74
02 IA	2/28	\$180.33	\$15.41	\$2.72	\$2.46	--	\$12.46	\$181.41
06 IA	4/11	\$196.90	--	N/A	\$4.37	--	--	\$195.62
08 IN	5/1	\$190.00	--	\$3.00	\$6.00	--	--	\$190.86
13 IA	5/17	\$183.87	--	N/A	\$6.25	--	--	\$185.26

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

Other Premiums: YG 1: \$4.00, YG 2: \$2.00

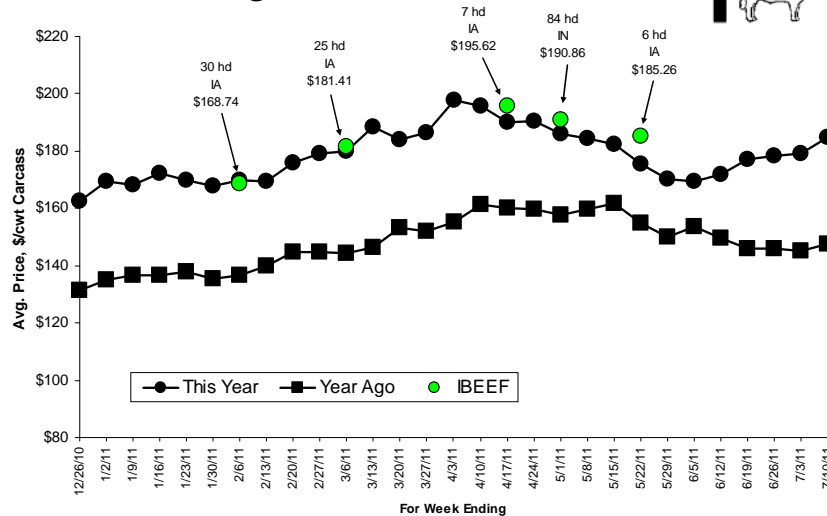
In addition, some Iowa cattle received an Age Verified Premium of \$15.00/hd (06 IA) or \$10.00/hd (13 IA)

Other Discounts: <550 lbs: \$25.00 (08 IN)

All cattle sold to Tyson Fresh Meats, True Value or Standard Grid:

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

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



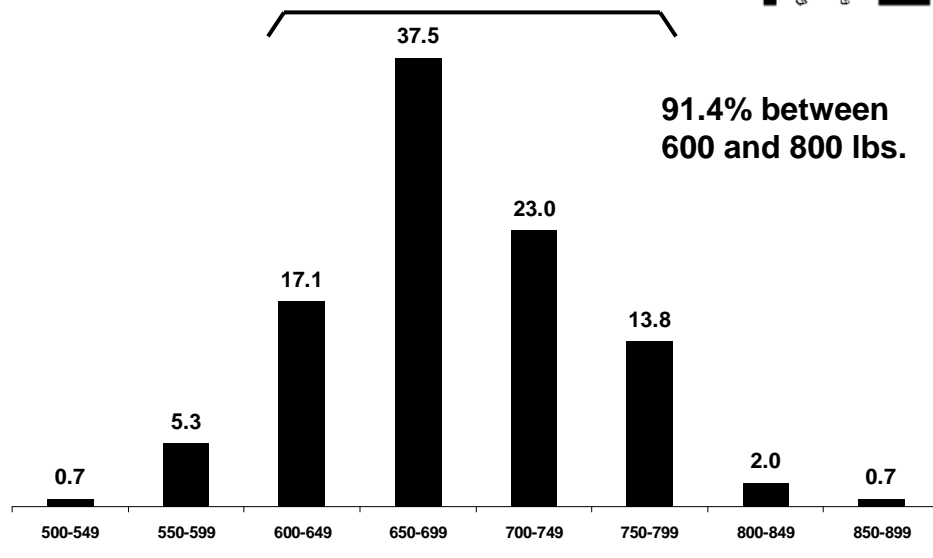
Source: 5 Area Weekly Weighted Average Direct Slaughter Cattle (Texas/Oklahoma, Kansas, Nebraska, Colorado, Iowa/Minnesota feedlots), USDA Market News Service.

## Heifer Carcass Characteristics (Cooperator Average)

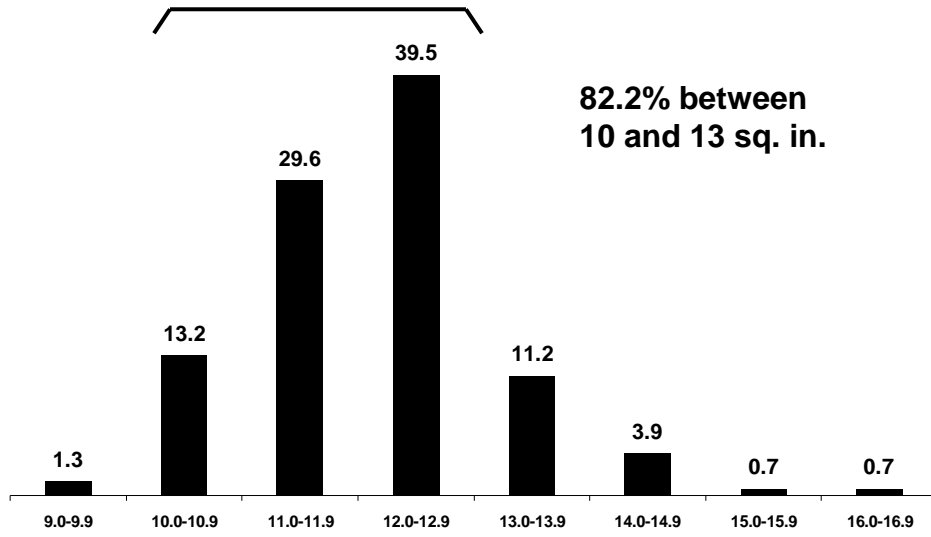


	<u>Average</u>	<u>Range</u>
Carcass Weight	676	646 to 724
Dressing %	61.8	61.0 to 62.9
Ribeye Area	11.9	11.5 to 12.5
REA/cwt carcass	1.77	1.72 to 1.83
Backfat	0.43	0.37 to 0.48
Yield Grade	2.8	2.5 to 2.9
% Choice or Prime	82.6	73.3 to 92.9
Sale Price, \$/cwt	\$188.47	\$174.51 to \$192.43
Sale Value/Hd.	\$1,276.11	\$1,226.95 to \$1,336.45

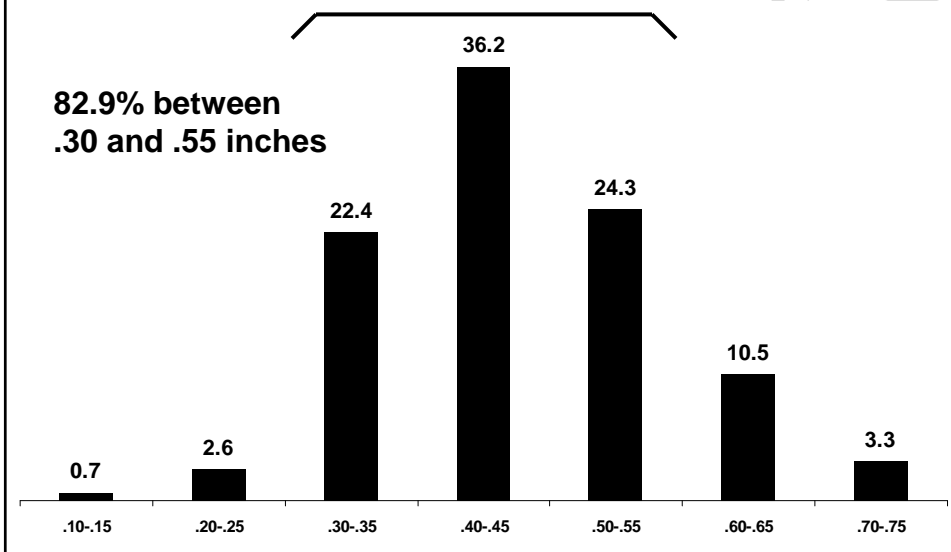
## Heifers Carcass Weight



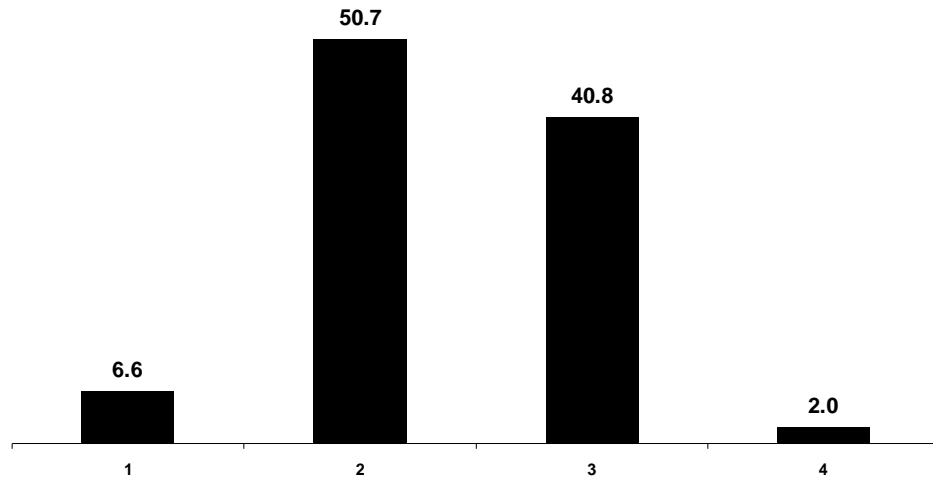
# Heifers Ribeye Area



# Heifers Backfat



## Heifers Yield Grade



## Heifer Feeding Cost (Cooperator Average)



	<u>Average</u>	<u>Range</u>
Feed	\$374.96	\$320.24 to \$406.61
Medication	\$1.46	\$0.00 to \$8.08
Yardage	\$49.36	\$41.16 to \$52.36
Misc. (processing, trucking, data collection)	\$50.13	\$39.78 to \$53.76
<b>Total</b>	<b>\$475.91</b>	<b>\$401.59 to \$511.37</b>

## Heifers - The Bottom Line (Cooperator Average)



	<u>Average</u>	<u>Range</u>
Feed Cost of Gain, \$/cwt	\$79.34	\$69.96 to \$91.19
Nonfeed Cost of Gain, \$/cwt	\$21.52	\$17.93 to \$25.19
Total Cost of Gain, \$/cwt	\$100.86	\$87.89 to \$116.39
Profit/Head	\$201.39	\$169.17 to \$239.38
Break Even Feeder Calf Value, \$/cwt	\$126.44	\$115.85 to \$138.61

## Heifer Profit Groups



<u>Profit Group</u>	<u>No. Heifers</u>	<u>Profit \$/Hd.</u>	<u>Break Even Feeder Calf Value, \$/cwt</u>
1	38	\$277.30	\$134.79
2	38	\$221.40	\$127.75
3	38	\$180.28	\$121.22
4	38	\$110.15	\$110.37
<hr/>			
Average		\$197.28	\$123.53

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



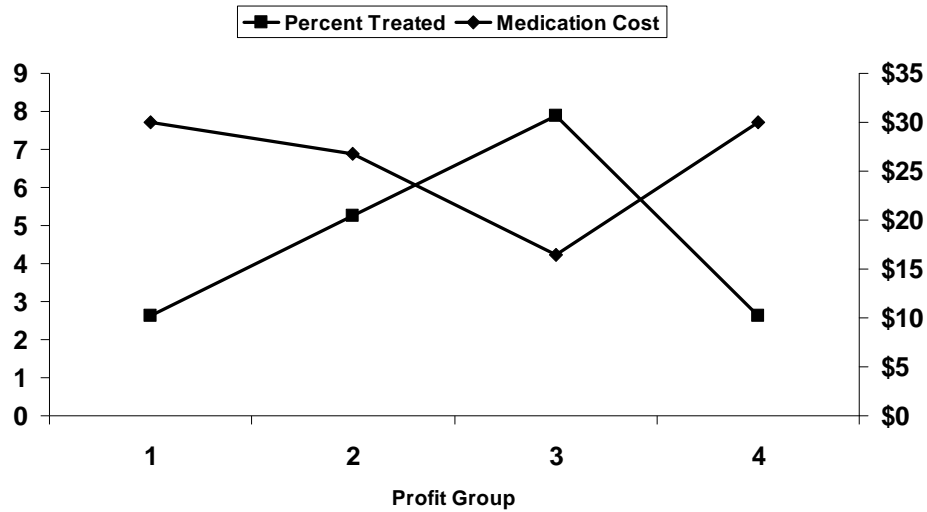
	<u>High vs. Low</u>
Delivery Point Weight, lbs.	672 vs. 665
Start Weight, lbs.	656 vs. 640
% Shrink (delivery - feedlot in)	-2.74 vs. -3.64
Final Weight, lbs.	1168 vs. 1074
Feedlot Daily Gain	3.42 vs. 3.14
Medication Cost	\$0.79 vs. \$0.79
Total Feedlot Cost	\$474.12 vs. \$429.10
Cost of Gain, \$/cwt	\$92.90 vs. \$100.03
Days on Feed	151 vs. 144

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



	<u>High vs. Low</u>
Hot Carcass Weight, lbs.	730 vs. 647
Ribeye Area	12.6 vs. 11.5
Backfat	0.46 vs. 0.45
% Yield Grade 4	0.0 vs. 7.9
% Yield Grade 1 and 2	55.3 vs. 44.7
% Choice or Prime	86.8 vs. 68.4
Carcass Price, \$/cwt	\$188.10 vs. \$179.39

## 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	107	24.3	26.2	22.4	27.1
Other Breeds	14	35.7	14.3	28.6	21.4
SimAngus	31	22.6	25.8	32.3	19.4

“Other Breeds” = Breeds with fewer than 10 heifers.  
Includes Simmental (8 heifers), and Gelbvieh Balancer (6).

## % 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					
01 IA 1/31	30	6.7	23.3	26.7	43.3
02 IA 2/28	25	52.0	12.0	20.0	16.0
06 IA 4/11	7	71.4	28.6	0.0	0.0
08 IN 5/1	84	19.0	29.8	27.4	23.8
13 IA 5/17	6	33.3	16.7	33.3	16.7

## Factors That Affect Profitability



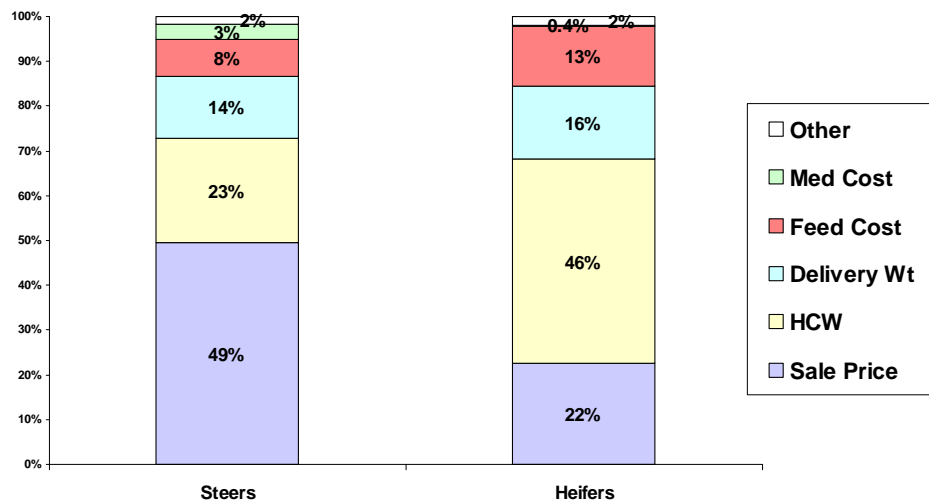
- Health
- Feedlot Daily Gain
- Harvest Weight
- Quality Grade
- Yield Grade

# Profit



- Profit = Value – (Feeding Cost + Calf Value)
- Steers:  
 $\$163.80 = \$1,404.66 - (\$548.58 + \$692.28)$
- Heifers:  
 $\$197.29 = \$1,273.43 - (\$457.48 + \$618.66)$

# Factors Affecting Variation in Profit



## Factors Affecting Variation in Profit



- Steers

Profit = -1734.20  
+8.25 Sale Price  
+1.77 HCW  
-0.79 Delivery Wt  
-1.03 Feed Cost  
-1.03 Med Cost

$R^2 = .983$

- Heifers

Profit = -1423.09  
+6.44 Sale Price  
+1.92 HCW  
-0.73 Delivery Wt  
-1.14 Feed Cost  
-0.87 Med Cost

$R^2 = .981$

## Factors Affecting Variation in Profit



- Steers

\$1.00 ↑ in Sale Price ⇒ \$8.25 ↑ in Profit  
1 lb ↑ in HCW ⇒ \$1.77 ↑ in Profit  
1 lb ↑ in Delivery Wt ⇒ \$0.79 ↓ in Profit  
\$1.00 ↑ in Feed Cost ⇒ \$1.03 ↓ in Profit  
\$1.00 ↑ in Med Cost ⇒ \$1.03 ↓ in Profit

## Factors Affecting Variation in Profit



- Heifers

\$1.00 ↑ in Sale Price ⇒ \$6.44 ↑ in Profit

1 lb ↑ in HCW ⇒ \$1.92 ↑ in Profit

1 lb ↑ in Delivery Wt ⇒ \$0.73 ↓ in Profit

\$1.00 ↑ in Feed Cost ⇒ \$1.14 ↓ in Profit

\$1.00 ↑ in Med Cost ⇒ \$0.87 ↓ in Profit

IBEEF Participation



Data



Information



Knowledge



Action



## For more information about IBEEF:



- <http://www.ansc.purdue.edu/ibeeff/>
- Brad Shelton, Purdue CES
  - Washington County Extension Educator
  - 812-883-4601
  - [sheltonb@purdue.edu](mailto:sheltonb@purdue.edu)