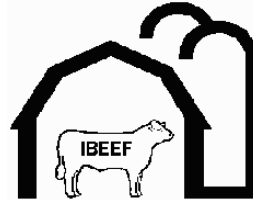


2003 Spring Indiana Beef Evaluation and Economics Feeding Program



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.

2003 Spring IBEEF Participation



- 3 cooperators
- 46 steers and 75 heifers
- Weaned at least 30 days before delivery
- Delivered May 19, 2003
- Fed at Gregory Feedlots, Tabor, IA

Vaccination Requirements



At weaning or 2 weeks prior:

- Four-way respiratory virus (IBR, BVD, PI3, and BRSV)
- preferably killed vaccine
- Seven-way clostridial vaccine
- Haemophilus somnus vaccine
- Pasturella vaccine

Two weeks before delivery:

- Repeat four-way respiratory virus vaccine (MLV)
- Repeat Haemophilus somnus vaccine

2003 Spring IBEEF Participation



- Sire breeds represented: Angus and Simmental
- Color: Black/BWF 75%, Gray 12%, Red/RWF 6%, Brown 3%, Smoke 2%, White 2%

Feedlot Performance



| | <u>Steer</u> | <u>Heifer</u> |
|-----------------------------|--------------|---------------|
| Delivery Point Weight, lbs. | 578 | 558 |
| Feedlot In Weight, lbs. | 612 | 580 |
| Harvest Weight, lbs. | 1196 | 1061 |
| ADG | 3.17 | 2.86 |
| Days on Feed | 185 | 168 |
| Age at Harvest | 426 | 417 |

Carcass Characteristics



| | <u>Steer</u> | <u>Heifer</u> |
|--------------------------|--------------|---------------|
| Hot Carcass Weight, lbs. | 736 | 653 |
| Ribeye Area | 12.6 | 12.0 |
| Backfat | 0.44 | 0.41 |
| Yield Grade | 2.7 | 2.6 |
| % YG 1 and 2 | 69.6 | 78.7 |
| % YG 4 | 0.0 | 0.0 |
| % Choice and Prime | 60.9 | 76.0 |
| % CAB | 2.2 | 12.0 |

Calf Value At Delivery



| <u>Delivery Point</u> <u>Weight, lbs.</u> | <u>\$/cwt</u> <u>Steer</u> | <u>\$/cwt</u> <u>Heifer</u> |
|--|-------------------------------|--------------------------------|
| Less than 400 | | \$92.50 |
| 400 - 449 | | \$90.00 |
| 450 - 499 | \$95.00 | \$87.50 |
| 500 - 549 | \$92.50 | \$85.00 |
| 550 - 599 | \$90.00 | \$82.50 |
| 600 - 649 | \$87.50 | \$80.00 |
| 650 - 699 | \$85.00 | \$77.50 |
| 700 - 749 | \$82.50 | \$75.00 |
| 750 - 799 | \$80.00 | \$72.50 |
| 800 and above | \$77.50 | \$70.00 |

Economics



| | <u>Steer</u> | <u>Heifer</u> |
|--------------------------|--------------|---------------|
| Feed Cost/cwt Gain | \$34.85 | \$37.68 |
| Nonfeed Cost/cwt Gain | \$20.22 | \$23.22 |
| Total Cost/cwt Gain | \$55.07 | \$60.90 |
| Carcass Price, \$/cwt | \$163.66 | \$162.49 |
| Sale Value | \$1,203.30 | \$1,061.82 |
| Calf Value | \$517.51 | \$459.24 |
| Profit | \$367.95 | \$316.10 |
| BE Feeder Calf Value/cwt | \$154.04 | \$142.87 |

IBEEF Cattle Compared to 2000 NBQA Native



| | <u>Steer</u> | <u>Heifer</u> | <u>NBQA</u> |
|----------------|--------------|---------------|-------------|
| % Prime | 0.0 | 2.7 | 1.6 |
| % Prem. Choice | 6.5 | 12.0 | 16.8 |
| % Low Choice | 54.3 | 61.3 | 32.2 |
| % Select | 39.1 | 24.0 | 42.9 |
| % Standard | 0.0 | 0.0 | 5.7 |
| % YG 1&2 | 69.6 | 78.7 | 54.4 |
| % YG 4 | 0.0 | 0.0 | 3.4 |

Steers Compared to 2000 NBQA Steers



| | <u>IBEEF</u> | <u>NBQA</u> |
|---------------|--------------|-------------|
| Yield Grade | 2.7 | 3.2 |
| Fat Thickness | .44 | .47 |
| Carcass Wt. | 736 | 808 |
| Ribeye Area | 12.6 | 13.1 |
| Marbling | SL 93 | SM 18 |

Heifers Compared to 2000 NBQA Heifers



| | <u>IBEEF</u> | <u>NBQA</u> |
|---------------|--------------|-------------|
| Yield Grade | 2.6 | 2.9 |
| Fat Thickness | .41 | .53 |
| Carcass Wt. | 653 | 741 |
| Ribeye Area | 12.0 | 13.0 |
| Marbling | SM 27 | SM 31 |



Steers

Steer Feedlot Performance (Cooperator Average)



| | <u>Average</u> | <u>Range</u> |
|--------------------------------------|----------------|--------------------|
| Delivery Point Weight, lbs. | 575 | 563 to 586 |
| Initial Value at Delivery, \$/cwt | \$89.67 | \$89.08 to \$90.26 |
| Feedlot In Weight, lbs. | 604 | 575 to 632 |
| Sale Weight | 1199 | 1190 to 1208 |
| Days on Feed | 187 | 179 to 195 |
| Daily Gain | 3.19 | 3.13 to 3.25 |

How Steers Were Sold Base Price and Grid



| Sale Group | Sell Date | Base Price | Premiums | | Discounts | Avg. \$/cwt |
|------------|-----------|------------|----------|---------|-----------|-------------|
| | | | Prime | CAB | Select | |
| 2 | 11/11 | \$175.00 | -- | \$11.00 | \$20.00 | \$166.72 |
| 4 | 12/16 | \$160.99 | -- | \$7.83 | \$12.70 | \$160.60 |

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

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

Other Discounts: None

All cattle sold to IBP - Denison, IA

Steer Carcass Characteristics (Cooperator Average)

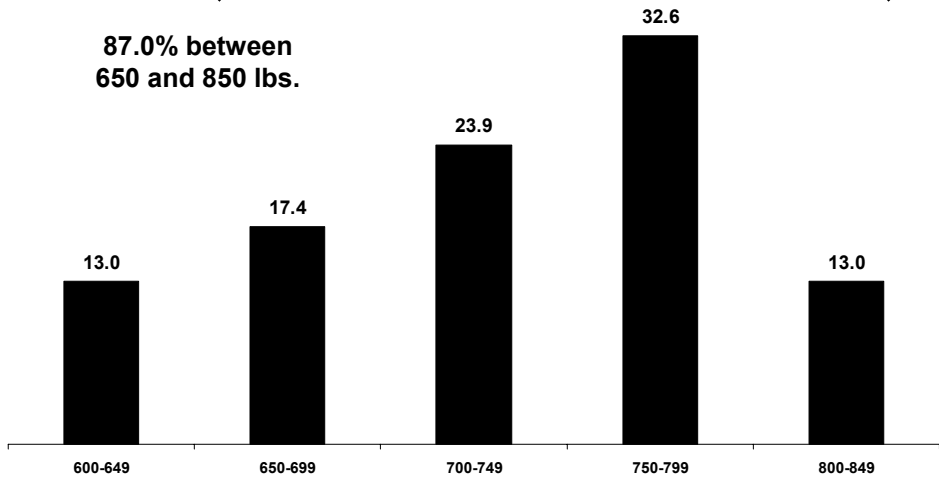


| | <u>Average</u> | <u>Range</u> |
|--------------------|----------------|--------------------------|
| Carcass Weight | 736 | 735 to 737 |
| Dressing % | 61.4 | 61.0 to 61.7 |
| Ribeye Area | 12.8 | 12.3 to 13.4 |
| REA/cwt carcass | 1.75 | 1.68 to 1.82 |
| Backfat | 0.43 | 0.41 to 0.46 |
| Yield Grade | 2.7 | 2.4 to 2.9 |
| % Choice or Prime | 61.3 | 60.0 to 62.5 |
| Sale Price, \$/cwt | \$163.11 | \$161.29 to \$164.93 |
| Sale Value/Hd. | \$1,199.72 | \$1,187.98 to \$1,211.47 |

Steers Carcass Weight



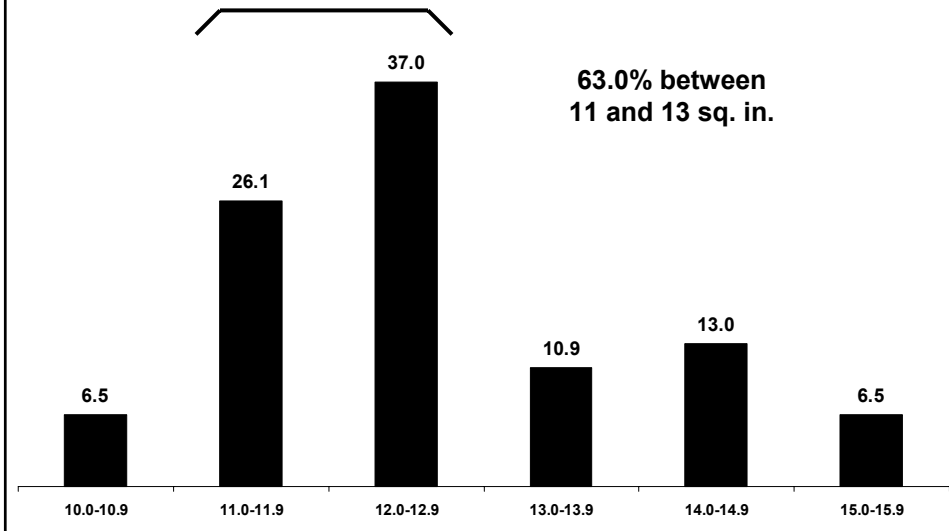
87.0% between
650 and 850 lbs.



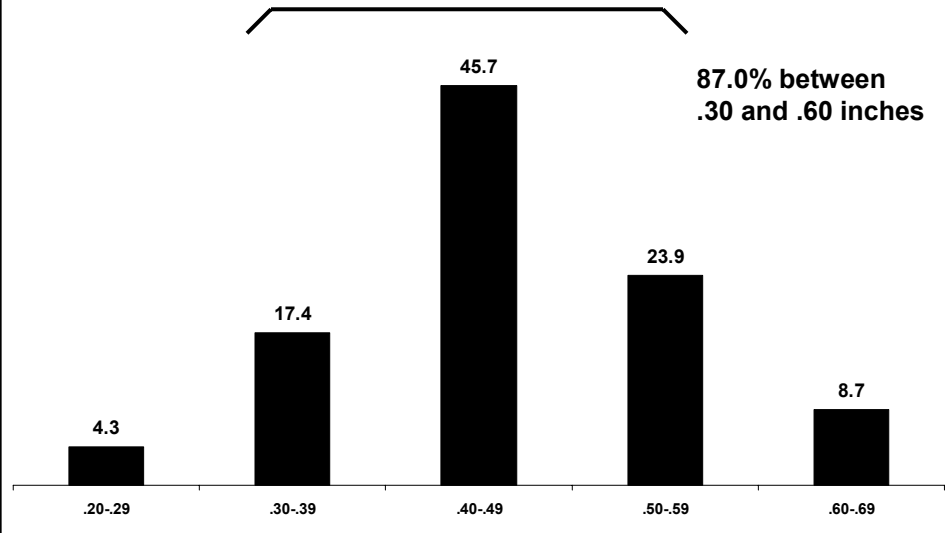
Steers Ribeye Area



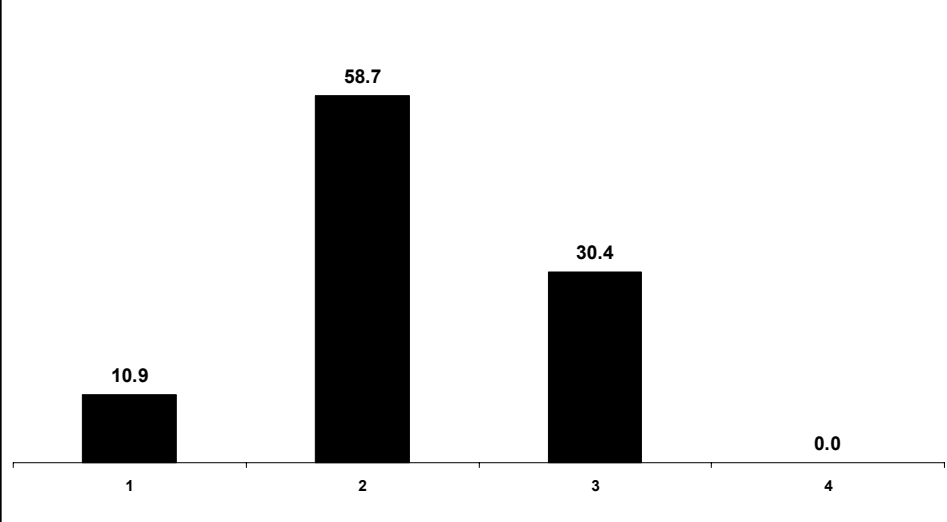
63.0% between
11 and 13 sq. in.



Steers Backfat



Steers Yield Grade



Steer Feeding Cost (Cooperator Average)



| | <u>Average</u> | <u>Range</u> |
|--|-----------------|-----------------------------|
| Feed | \$202.33 | \$200.79 to \$203.86 |
| Medication | \$13.03 | \$8.60 to \$17.47 |
| Yardage | \$64.34 | \$61.57 to \$67.10 |
| Misc. (processing, trucking, data collection) | \$38.31 | \$37.61 to \$39.02 |
| Total | \$318.01 | \$317.44 to \$318.58 |

Steers - The Bottom Line (Cooperator Average)



| | <u>Average</u> | <u>Range</u> |
|---|----------------|----------------------|
| Feed Cost of Gain, \$/cwt | \$34.25 | \$32.28 to \$36.22 |
| Nonfeed Cost of Gain, \$/cwt | \$19.78 | \$18.32 to \$21.23 |
| Total Cost of Gain, \$/cwt | \$54.02 | \$50.60 to \$57.45 |
| Profit/Head | \$366.32 | \$360.96 to \$371.68 |
| Break Even Feeder Calf Value, \$/cwt | \$154.40 | \$153.23 to \$155.57 |

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 = 736 lbs x \$163.66/cwt = \$1,204.54

Feedlot Costs = \$317.83

Net = \$1,204.54 - \$317.83 = \$886.71

Calf Weight at Delivery = 578 lbs

Break Even Calf Value = \$886.71/578 lbs = \$153.41/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 (11 or 12 steers/group)
- Profit = Sale Value - Feedlot Costs - Calf Value
- Example:
Profit = \$1,203.30 - \$317.83 - \$517.51 = \$367.96

Steer Profit Groups



| <u>Profit Group</u> | <u>No. Steers</u> | <u>Profit \$/Hd.</u> | <u>Break Even Feeder Calf Value, \$/cwt</u> |
|---------------------|-------------------|----------------------|---|
| 1 | 12 | \$486.18 | \$173.77 |
| 2 | 11 | \$390.67 | \$159.07 |
| 3 | 12 | \$335.49 | \$147.79 |
| 4 | 11 | \$251.67 | \$134.32 |
| Average | | \$366.00 | \$153.74 |

Differences Between High And Low Profit Groups *Feedlot Performance*



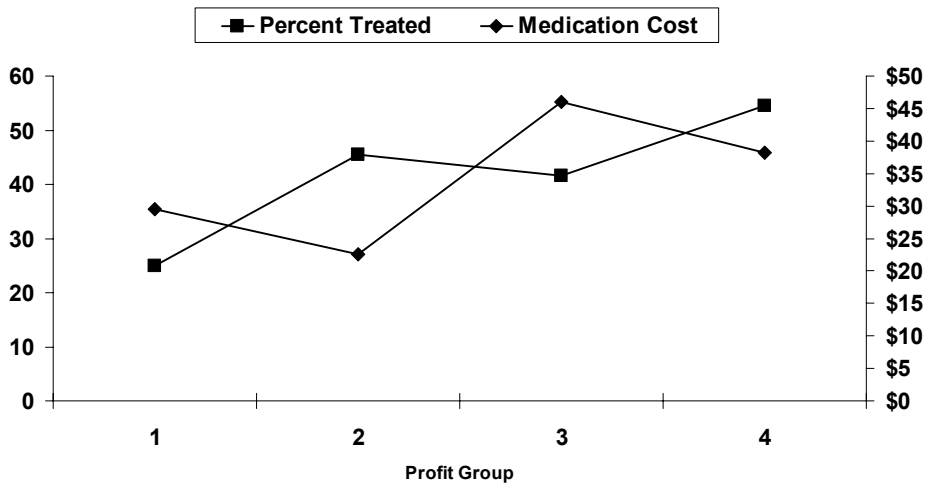
| | <u>High vs. Low</u> |
|----------------------------------|-----------------------|
| Delivery Point Weight, lbs. | 584 vs. 576 |
| Start Weight, lbs. | 626 vs. 609 |
| % Shrink (delivery - feedlot in) | 7.15 vs. 5.52 |
| Final Weight, lbs. | 1240 vs. 1150 |
| Feedlot Daily Gain | 3.44 vs. 3.02 |
| Medication Cost | \$7.38 vs. \$20.86 |
| Total Feedlot Cost | \$320.04 vs. \$307.96 |
| Cost of Gain, \$/cwt | \$52.46 vs. \$57.25 |
| Days on Feed | 179 vs. 180 |

Differences Between High And Low Profit Groups *Carcass Characteristics*



| | <u>High vs. Low</u> |
|--------------------------|-----------------------|
| Hot Carcass Weight, lbs. | 775 vs. 684 |
| Ribeye Area | 12.7 vs. 12.1 |
| Backfat | 0.44 vs. 0.40 |
| % Yield Grade 4 | 0.0 vs. 0.0 |
| % Yield Grade 1 and 2 | 66.7 vs. 81.8 |
| % Choice or Prime | 91.7 vs. 18.2 |
| Carcass Price, \$/cwt | \$171.52 vs. \$157.28 |

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 | 27 | 22.2 | 18.5 | 25.9 | 33.3 |
| Simmental | 19 | 31.6 | 31.6 | 26.3 | 10.5 |
| Color | | | | | |
| Black | 32 | 28.1 | 21.9 | 21.9 | 28.1 |
| Other | 14 | 21.4 | 28.6 | 35.7 | 14.3 |

**% 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 | | | | | |
| 2 - 11/11 | 23 | 34.8 | 13.0 | 21.7 | 30.4 |
| 4 - 12/16 | 23 | 17.4 | 34.8 | 30.4 | 17.4 |



Heifers

Heifer Feedlot Performance (Cooperator Average)



| | <u>Average</u> | <u>Range</u> |
|--------------------------------------|----------------|--------------------|
| Delivery Point Weight, lbs. | 585 | 474 to 730 |
| Initial Value at Delivery, \$/cwt | \$81.79 | \$74.69 to \$87.14 |
| Feedlot In Weight, lbs. | 607 | 471 to 757 |
| Sale Weight | 1061 | 1032 to 1083 |
| Days on Feed | 159 | 111 to 192 |
| Daily Gain | 2.85 | 2.79 to 2.94 |

How Heifers Were Sold Base Price and Grid



| Sale Group | Sell Date | Base Price | Premiums | | Discounts | Avg. \$/cwt |
|------------|-----------|------------|----------|-------|-----------|-------------|
| | | | Prime | CAB | Select | |
| 1 | 9/16 | 142.00 | -- | 6.00 | 13.00 | 136.43 |
| 3 | 11/11 | 175.00 | 20.00 | 11.00 | 20.00 | 177.32 |
| 5 | 12/16 | 158.63 | 22.65 | 7.83 | 12.70 | 158.84 |

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

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

Other Discounts: <550 lbs: \$19.53 (5 -12/16); <525 lbs: \$26.03 (5 - 12/16)

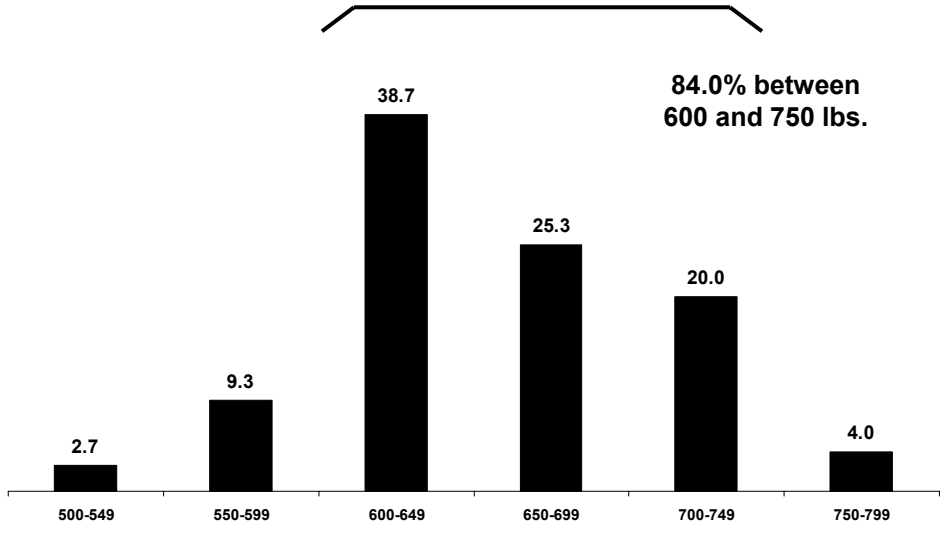
All cattle sold to IBP - Denison, IA

Heifer Carcass Characteristics (Cooperator Average)

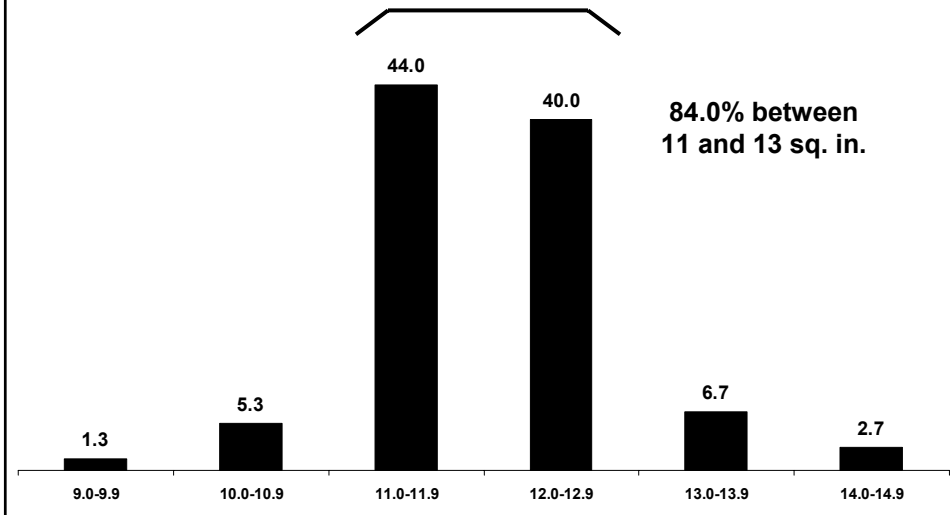


| | <u>Average</u> | <u>Range</u> |
|--------------------|----------------|------------------------|
| Carcass Weight | 652 | 631 to 670 |
| Dressing % | 61.5 | 61.0 to 61.9 |
| Ribeye Area | 12.0 | 11.9 to 12.0 |
| REA/cwt carcass | 1.84 | 1.80 to 1.89 |
| Backfat | 0.40 | 0.38 to 0.43 |
| Yield Grade | 2.6 | 2.5 to 2.7 |
| % Choice or Prime | 69.7 | 40.0 to 90.6 |
| Sale Price, \$/cwt | \$157.91 | \$136.43 to \$173.91 |
| Sale Value/Hd. | \$1,031.29 | \$896.16 to \$1,164.56 |

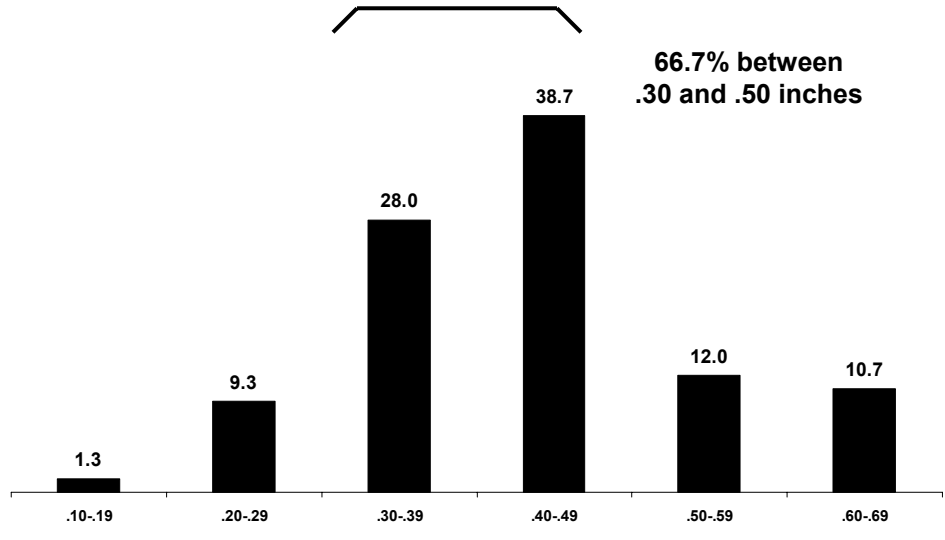
Heifers Carcass Weight



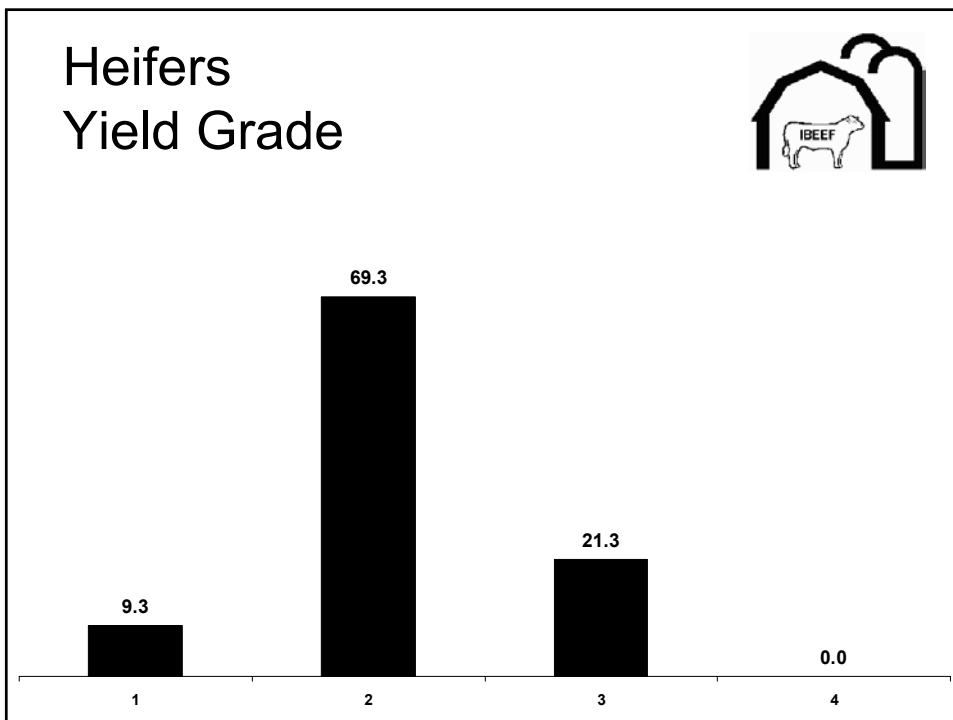
Heifers Ribeye Area



Heifers Backfat



Heifers Yield Grade



Heifer Feeding Cost (Cooperator Average)



| | <u>Average</u> | <u>Range</u> |
|--|-----------------|-----------------------------|
| Feed | \$170.17 | \$127.61 to \$193.97 |
| Medication | \$16.95 | \$12.33 to \$21.95 |
| Yardage | \$52.46 | \$37.33 to \$62.74 |
| Misc. (processing, trucking, data collection) | \$34.47 | \$33.79 to \$35.17 |
| Total | \$274.04 | \$211.06 to \$308.44 |

Heifers - The Bottom Line (Cooperator Average)



| | <u>Average</u> | <u>Range</u> |
|---|----------------|----------------------|
| Feed Cost of Gain, \$/cwt | \$38.21 | \$34.59 to \$41.38 |
| Nonfeed Cost of Gain, \$/cwt | \$23.87 | \$20.54 to \$27.52 |
| Total Cost of Gain, \$/cwt | \$62.07 | \$55.13 to \$68.90 |
| Profit/Head | \$284.72 | \$139.88 to \$402.39 |
| Break Even Feeder Calf Value, \$/cwt | \$134.61 | \$93.90 to \$157.13 |

Heifer Profit Groups



| <u>Profit Group</u> | <u>No. Heifers</u> | <u>Profit \$/Hd.</u> | <u>Break Even Feeder Calf Value, \$/cwt</u> |
|---------------------|--------------------|----------------------|---|
| 1 | 18 | \$474.81 | \$170.00 |
| 2 | 19 | \$396.56 | \$162.59 |
| 3 | 19 | \$278.31 | \$140.51 |
| 4 | 19 | \$123.09 | \$99.81 |
| Average | | \$318.19 | \$143.23 |

Differences Between High And Low Profit Groups *Feedlot Performance*



| | <u>High vs. Low</u> |
|----------------------------------|-----------------------|
| Delivery Point Weight, lbs. | 551 vs. 635 |
| Start Weight, lbs. | 587 vs. 654 |
| % Shrink (delivery - feedlot in) | 6.41 vs. 2.79 |
| Final Weight, lbs. | 1103 vs. 1028 |
| Feedlot Daily Gain | 3.06 vs. 2.70 |
| Medication Cost | \$9.94 vs. \$28.38 |
| Total Feedlot Cost | \$291.77 vs. \$253.52 |
| Cost of Gain, \$/cwt | \$56.68 vs. \$68.90 |
| Days on Feed | 169 vs. 141 |

Differences Between High And Low Profit Groups *Carcass Characteristics*



| | <u>High vs. Low</u> |
|--------------------------|-----------------------|
| Hot Carcass Weight, lbs. | 687 vs. 622 |
| Ribeye Area | 12.3 vs. 11.6 |
| Backfat | 0.46 vs. 0.35 |
| % Yield Grade 4 | 0.0 vs. 0.0 |
| % Yield Grade 1 and 2 | 72.2 vs. 89.5 |
| % Choice or Prime | 100.0 vs. 26.3 |
| Carcass Price, \$/cwt | \$178.83 vs. \$140.65 |

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



| <u>No.</u> <u>Category</u> | <u>Heifers</u> | <u>Profit Group</u> | | | |
|-------------------------------|----------------|---------------------|----------|----------|----------|
| | | <u>1</u> | <u>2</u> | <u>3</u> | <u>4</u> |
| Breed of Sire | | | | | |
| Angus | 55 | 29.1 | 27.3 | 16.4 | 27.3 |
| Simmental | 20 | 10.0 | 20.0 | 50.0 | 20.0 |
| Color | | | | | |
| Black | 59 | 18.6 | 27.1 | 27.1 | 27.1 |
| Other | 16 | 43.8 | 18.8 | 18.8 | 18.8 |

% 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 | | | | | |
| 1 - 9/16 | 15 | 0.0 | 0.0 | 20.0 | 80.0 |
| 3 - 11/11 | 33 | 51.5 | 36.4 | 6.1 | 6.1 |
| 5 - 12/16 | 27 | 3.7 | 25.9 | 51.9 | 18.5 |

Factors That Affect Profitability



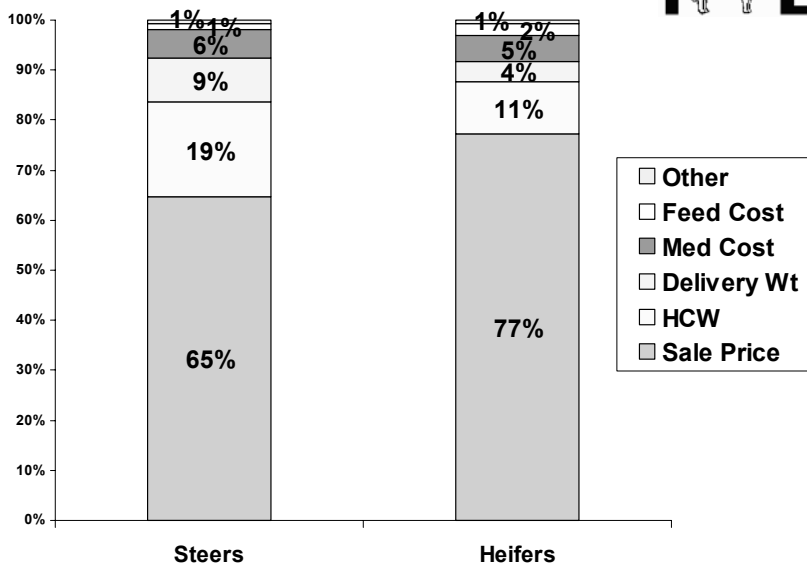
- Health
- Feedlot Daily Gain
- Harvest Weight
- Quality Grade
- Yield Grade

Profit



- Profit = Value – (Feeding Cost + Calf Value)
- Steers:
 $\$367.96 = \$1,203.30 - (\$317.83 + \$517.51)$
- Heifers:
 $\$316.10 = \$1,061.82 - (\$286.48 + \$459.24)$

Factors Affecting Variation in Profit



Factors Affecting Variation in Profit



- Steers

Profit = -1478.45
+7.59 Sale Price
+1.53 HCW
-0.56 Delivery Wt
-1.03 Med Cost
-0.94 Feed Cost

$R^2 = .992$

- Heifers

Profit = -1186.61
+6.26 Sale Price
+1.65 HCW
-0.57 Delivery Wt
-0.99 Med Cost
-1.43 Feed Cost

$R^2 = .993$

Factors Affecting Variation in Profit



- Steers

\$1.00 ↑ in Sale Price ⇒ \$7.59 ↑ in Profit
1 lb ↑ in HCW ⇒ \$1.53 ↑ in Profit
1 lb ↑ in Delivery Wt ⇒ \$0.56 ↓ in Profit
\$1.00 ↑ in Med Cost ⇒ \$1.03 ↓ in Profit
\$1.00 ↑ in Feed Cost ⇒ \$0.94 ↓ in Profit

Factors Affecting Variation in Profit



- Heifers

\$1.00 ↑ in Sale Price ⇒ \$6.26 ↑ in Profit

1 lb ↑ in HCW ⇒ \$1.65 ↑ in Profit

1 lb ↑ in Delivery Wt ⇒ \$0.57 ↓ in Profit

\$1.00 ↑ in Med Cost ⇒ \$0.99 ↓ in Profit

\$1.00 ↑ in Feed Cost ⇒ \$1.43 ↓ in Profit

IBEEF Participation



Data



Information



Knowledge



Action



For more information about IBEEF:



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