

**2008-2009**

**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.

# 2008-2009 IBEEF Participation

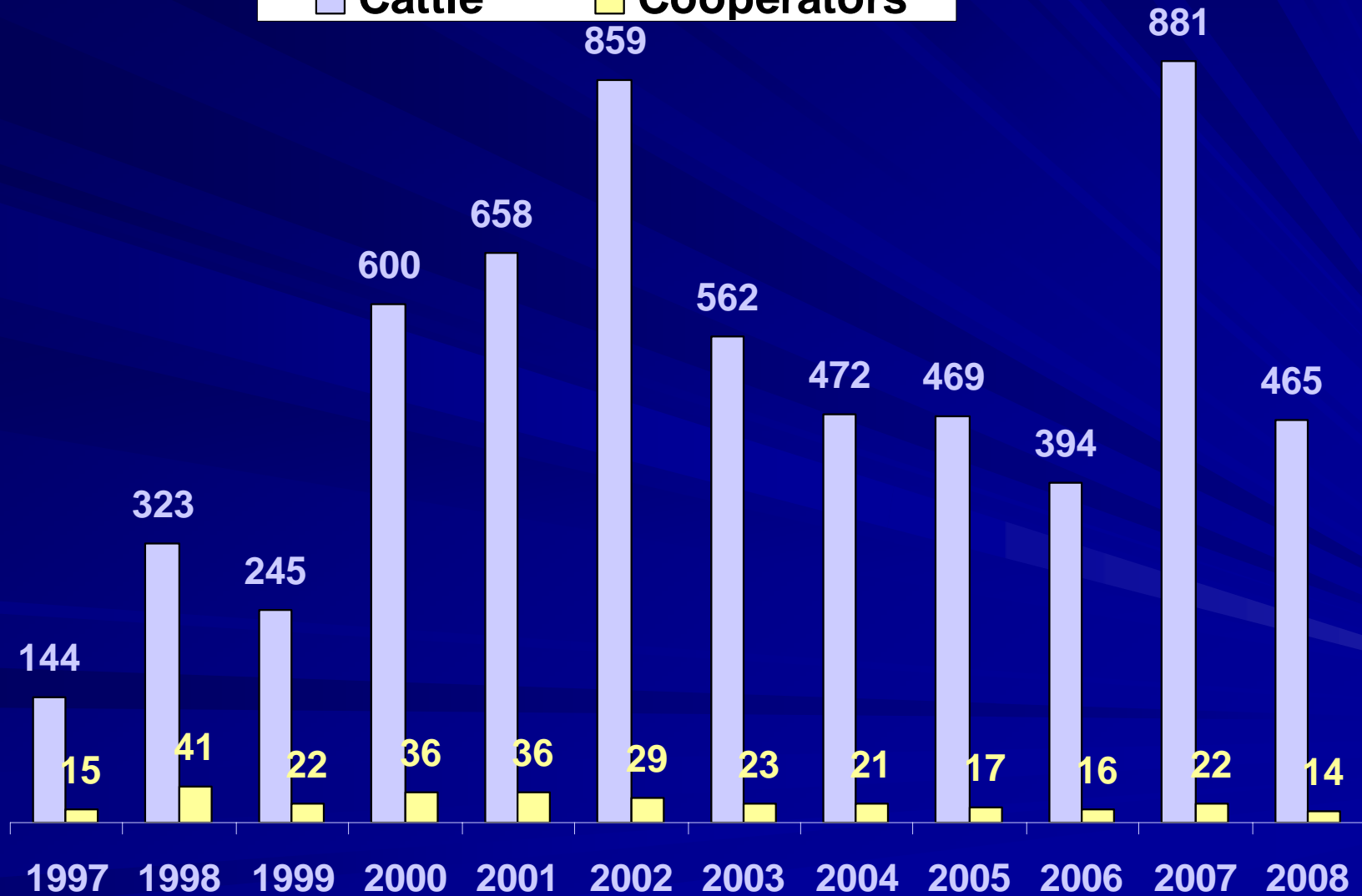


- 14 cooperators
- 388 steers and 77 heifers
- Weaned at least 30 days before delivery
- Delivered November 10, December 12, and December 22, 2008
- 388 Steers and 77 Heifers fed in Indiana
  - G&D Smoker Farm, Wanatah, IN

# History of Fall IBEEF



■ Cattle    ■ Cooperators



# 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)

# 2008-2009 IBEEF Participation



- Sire breeds represented: Angus, Charolais, Gelbvieh, Hereford, Red Angus, Shorthorn, SimAngus, Simmental, and Cross
- Color: Black/BWF 85%, Red/RWF 9%, White 3%, Brown 1%, Gray 1%, Smoke 1%

# Feedlot Performance



	Steer <u>Nov</u>	Steer <u>Dec</u>	Heifer <u>Nov</u>
Delivery Point Weight, lbs.	633	681	569
Feedlot In Weight, lbs.	624	675	544
Harvest Weight, lbs.	1296	1282	1132
ADG	3.76	3.57	3.16
Days on Feed	180	171	187
Age at Harvest	422	458	428

# Carcass Characteristics



	Steer	Steer	Heifer
	<u>Nov</u>	<u>Dec</u>	<u>Nov</u>
Hot Carcass Weight, lbs.	827	822	719
Ribeye Area	13.1	13.3	12.2
Backfat	0.48	0.46	0.46
Yield Grade	3.0	2.9	3.0
% YG 1 and 2	46.2	52.0	50.6
% YG 4	4.2	2.0	2.6
% Choice and Prime	66.0	47.3	75.3
% CAB	13.9	3.3	15.6

# Calf Value At Delivery



<u>Delivery Point Weight, lbs.</u>	<u>\$/cwt Steer</u>	<u>\$/cwt Heifer</u>
449 and below	\$105.00	\$95.00
450 - 499	\$102.50	\$92.50
500 - 549	\$100.00	\$90.00
550 - 599	\$97.50	\$87.50
600 - 649	\$95.00	\$85.00
650 - 699	\$92.50	\$82.50
700 - 749	\$90.00	\$80.00
750 - 799	\$87.50	\$77.50
800 and above	\$85.00	\$75.00
Avg. Weight	651	569
Avg. \$/cwt	\$93.17	\$87.49

# Economics



	Steer <u>Nov</u>	Steer <u>Dec</u>	Heifer <u>Nov</u>
Feed Cost/cwt Gain	\$53.16	\$54.91	\$56.07
Nonfeed Cost/cwt Gain	\$19.72	\$20.73	\$21.79
Total Cost/cwt Gain	\$72.88	\$75.64	\$77.86
Carcass Price, \$/cwt	\$139.57	\$134.61	\$139.47
Sale Value	\$1,154.33	\$1,106.04	\$1,002.41
Calf Value	\$595.59	\$624.97	\$497.96
Profit	\$71.54	\$26.11	\$49.17
BE Feeder Calf Value/cwt	\$105.66	\$95.78	\$96.31

# IBEEF Cattle Compared to 2005 NBQA Native



	Steer <u>Nov</u>	Steer <u>Dec</u>	Heifer <u>Nov</u>	<u>NBQA</u>
% Prime	0.0	0.0	1.3	2.1
% Prem. Choice	13.9	3.3	15.6	18.9
% Low Choice	52.1	44.0	58.4	35.3
% Select	30.7	44.7	22.1	38.2
% Standard	3.4	8.0	1.3	5.5
% YG 1&2	46.2	52.0	50.6	49.1
% YG 4	4.2	2.0	2.6	12.6



# Steers

# Steer Feedlot Performance (Cooperator Average)



	<u>Average</u>	<u>Range</u>
Delivery Point Weight, lbs.	637	517 to 709
Initial Value at Delivery, \$/cwt	\$93.89	\$90.36 to \$100.05
Feedlot In Weight, lbs.	630	503 to 694
Sale Weight	1278	1198 to 1330
Days on Feed	179	159 to 200
Daily Gain	3.64	3.30 to 3.91

# How Steers Were Sold

## Base Price and Grid



Sale Group	Sell Date	Base Price	Premiums		Discounts			Avg. \$/cwt
			Prime	CAB	Select	Standard	Y4	
03 IN	4/26	\$140.00	--	\$2.00	\$2.00	--	\$15.00	\$139.62
04 IN	5/3	\$142.00	--	\$2.00	\$3.50	\$6.00	\$15.00	\$142.18
08 IN	5/17	\$140.00	--	\$3.00	\$3.00	\$6.50	\$15.00	\$139.16
10 IN	5/18	\$140.00	--	\$3.00	\$3.00	\$6.50	\$15.00	\$138.94
11 IN	6/1	\$138.00	--	--	\$5.00	\$12.00	\$15.00	\$135.29
13 IN	6/21	\$134.00	--	\$3.00	\$5.00	\$15.00	\$15.00	\$131.70

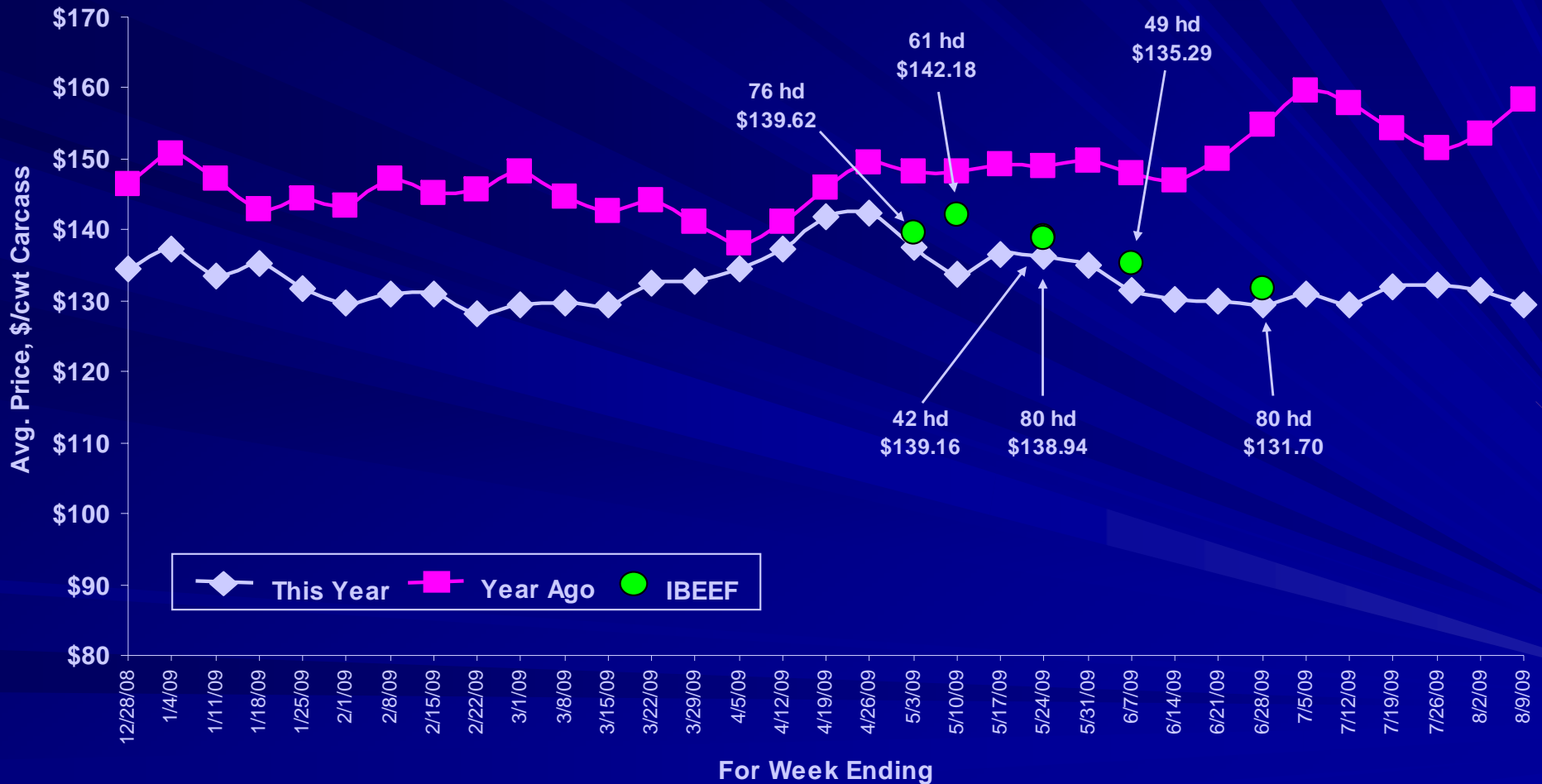
Base price, premiums, and discounts are \$/cwt

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

Other Discounts: >1000 lbs: \$15.00 (11 IN)

All cattle sold to Tyson Fresh Meats, Standard Grid, 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)

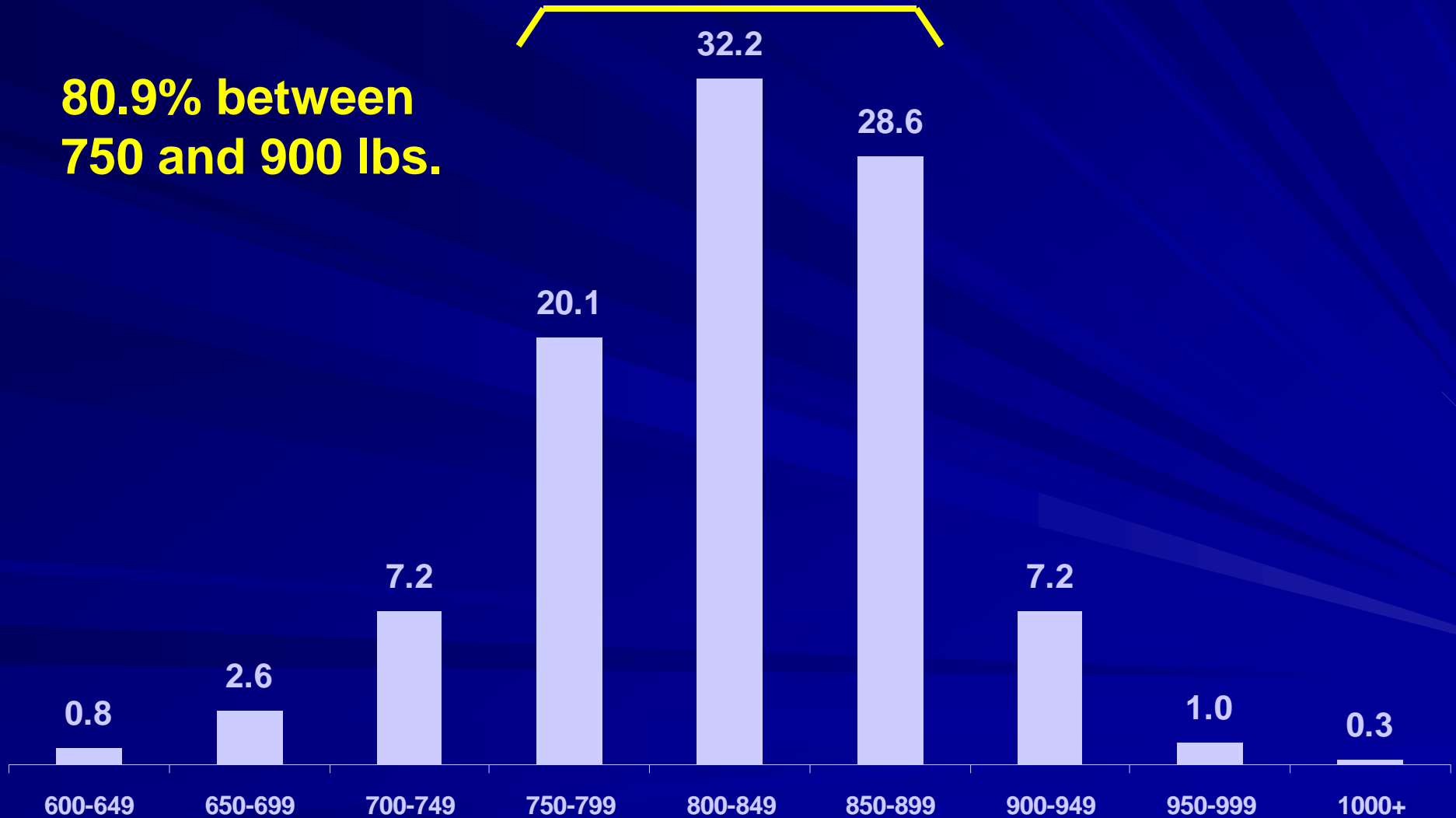


	<u>Average</u>	<u>Range</u>
Carcass Weight	817	751 to 845
Dressing %	63.9	62.7 to 64.8
Ribeye Area	13.2	11.8 to 14.6
REA/cwt carcass	1.62	1.56 to 1.79
Backfat	0.46	0.24 to 0.67
Yield Grade	2.9	1.9 to 3.7
% Choice or Prime	53.5	40.0 to 91.7
Sale Price, \$/cwt	\$137.15	\$134.20 to \$140.38
Sale Value/Hd.	\$1,120.36	\$1,008.36 to \$1,179.88

# Steers Carcass Weight



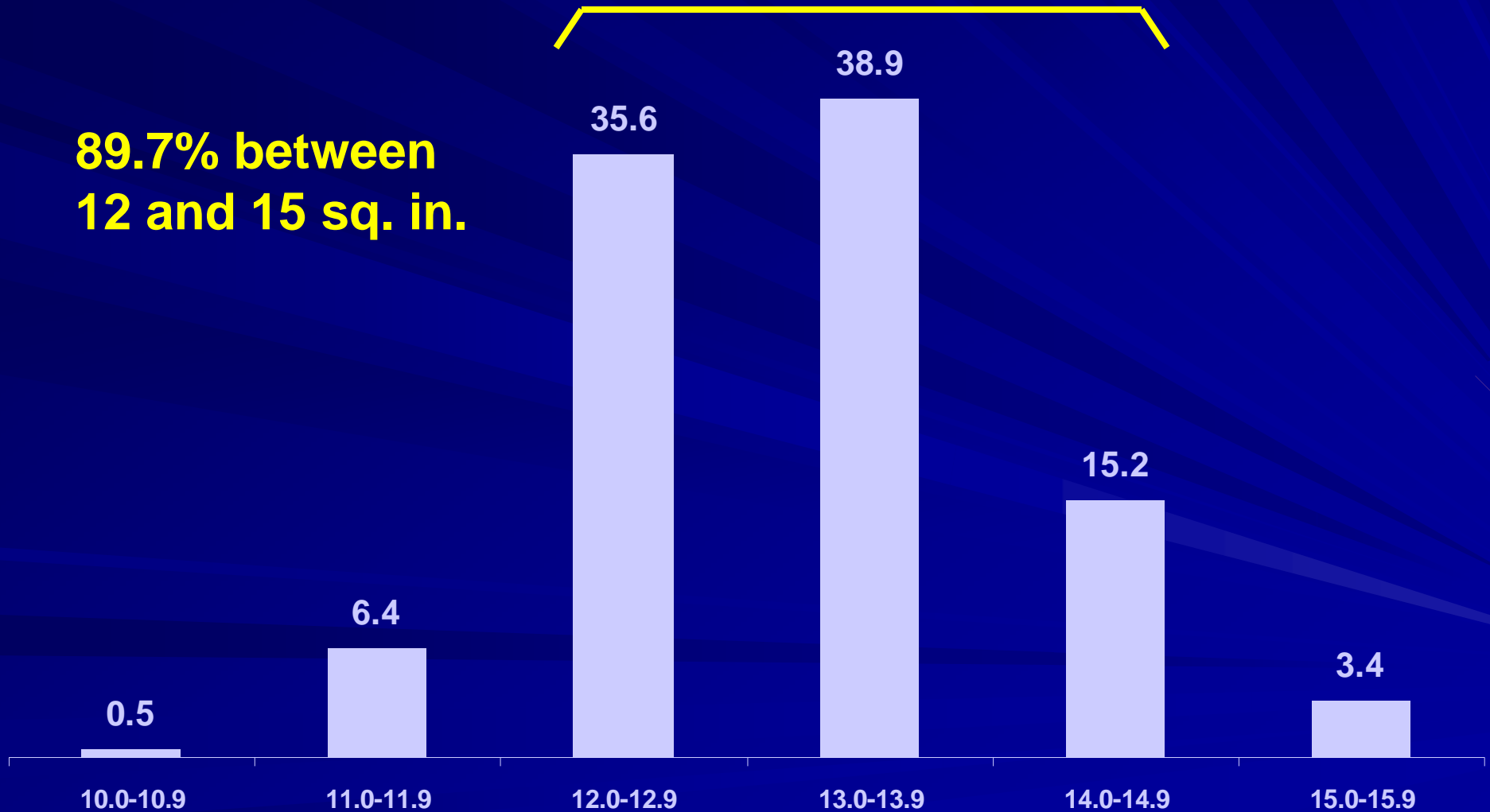
**80.9% between  
750 and 900 lbs.**



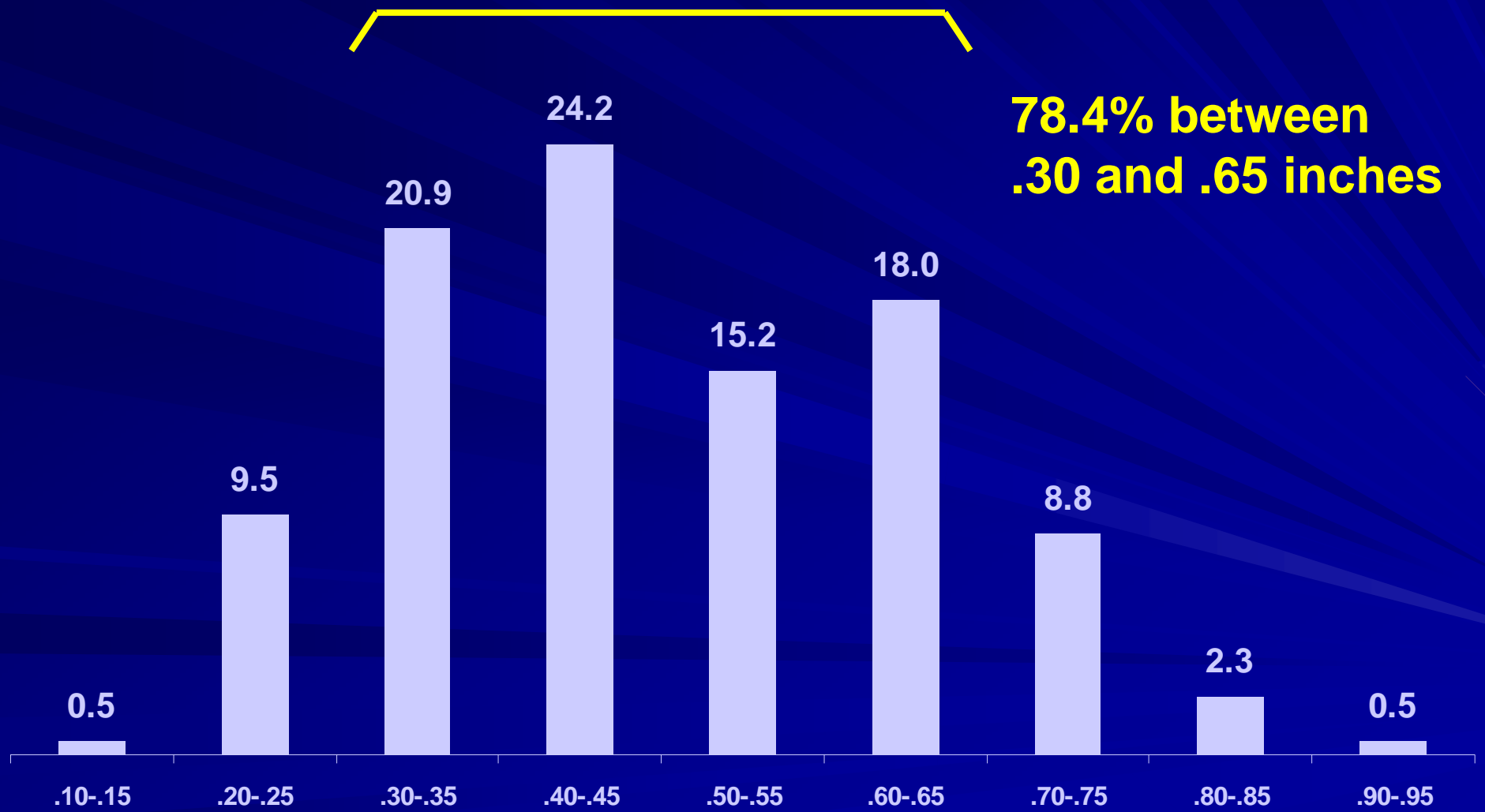
# Steers Ribeye Area



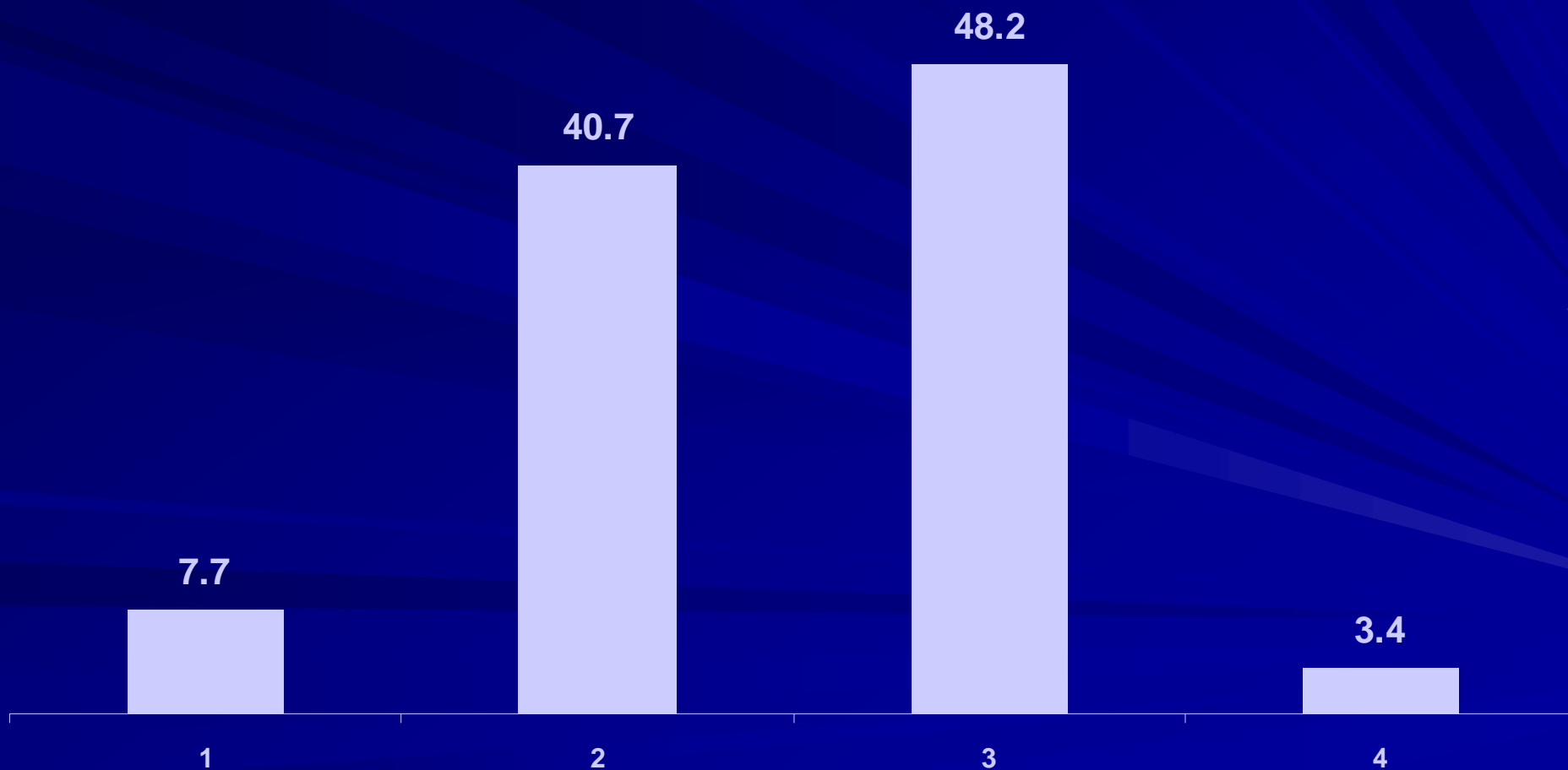
**89.7% between  
12 and 15 sq. in.**



# Steers Backfat



# Steers Yield Grade



# Steer Feeding Cost (Cooperator Average)



	<u>Average</u>	<u>Range</u>
Feed	\$345.51	\$293.07 to \$378.81
Medication	\$2.99	\$0.00 to \$13.00
Yardage	\$54.33	\$48.23 to \$60.48
Misc. (processing, trucking, data collection)	\$73.06	\$62.94 to \$79.81
Total	\$475.89	\$405.57 to \$526.46

# Steers - The Bottom Line (Cooperator Average)



	<u>Average</u>	<u>Range</u>
Feed Cost of Gain, \$/cwt	\$53.60	\$48.50 to \$55.91
Nonfeed Cost of Gain, \$/cwt	\$20.39	\$18.29 to \$24.42
Total Cost of Gain, \$/cwt	\$73.99	\$66.79 to \$78.83
Profit/Head	\$46.97	\$2.86 to \$80.05
Break Even Feeder Calf Value, \$/cwt	\$101.64	\$91.00 to \$107.23

# 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 = 825 lbs x \$137.65/cwt = \$1,135.61

Feedlot Costs = \$474.74

Net = \$1,135.61 - \$474.74 = \$660.87

Calf Weight at Delivery = 651 lbs

Break Even Calf Value = \$660.87/651 lbs = \$101.52/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 steers/group)
- Profit = Sale Value - Feedlot Costs - Calf Value
- Example:  
Profit = \$1,135.61 - \$474.74 - \$606.95 = \$53.92

# Steer Profit Groups



<u>Profit Group</u>	<u>No. Steers</u>	<u>Profit \$/Hd.</u>	<u>Break Even Feeder Calf Value, \$/cwt</u>
1	97	\$133.40	\$113.56
2	97	\$82.80	\$105.96
3	97	\$37.01	\$99.34
4	97	-\$37.31	\$88.51
<hr/>			
Average		\$53.98	\$101.84

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



	<u>High vs. Low</u>
Delivery Point Weight, lbs.	659 vs. 636
Start Weight, lbs.	660 vs. 625
% Shrink (delivery - feedlot in)	0.37 vs. -2.18
Final Weight, lbs.	1348 vs. 1228
Feedlot Daily Gain	4.04 vs. 3.29
Medication Cost	\$1.37 vs. \$2.72
Total Feedlot Cost	\$477.86 vs. \$473.01
Cost of Gain, \$/cwt	\$69.69 vs. \$79.18
Days on Feed	171 vs. 184

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

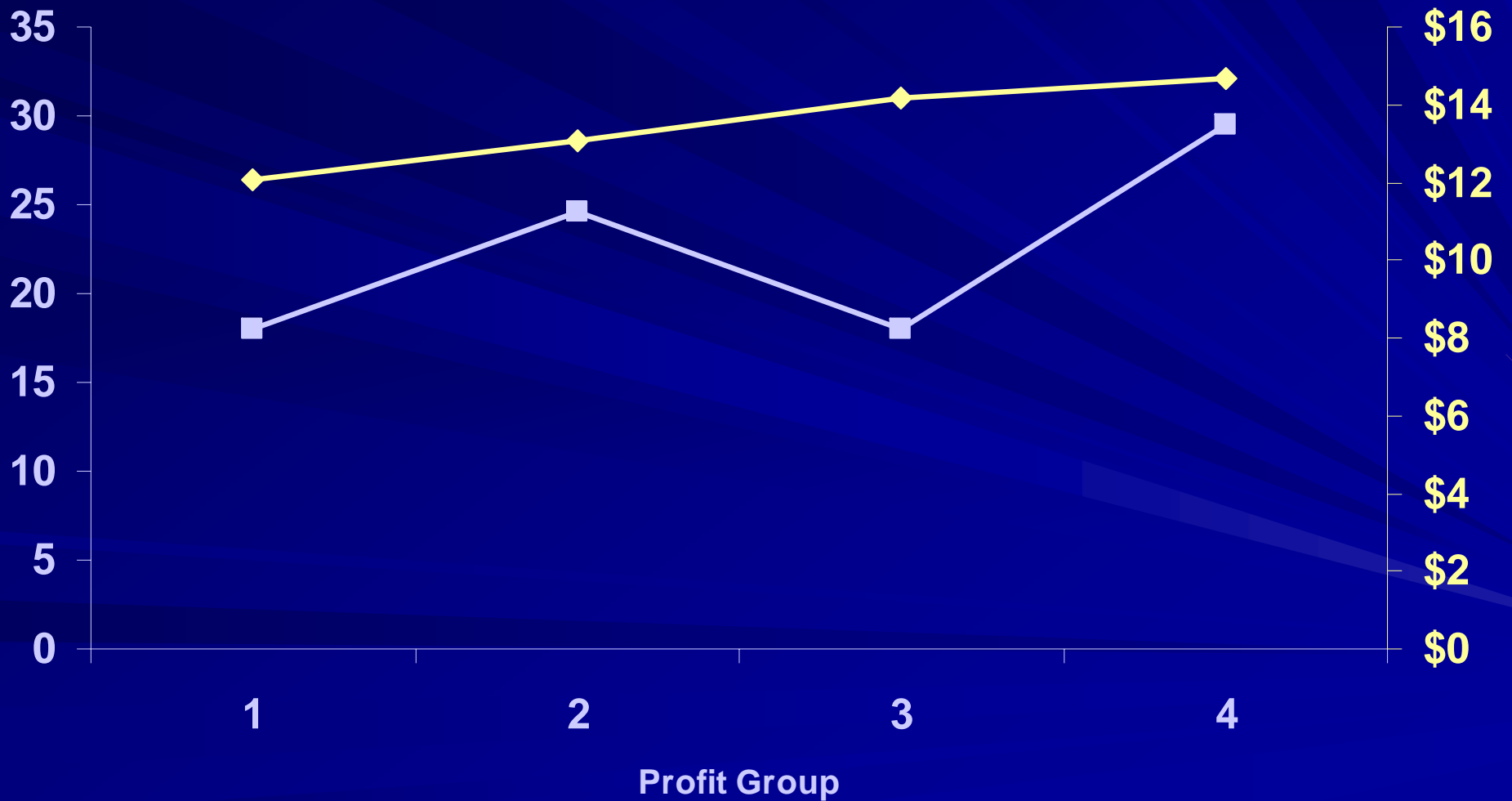


	<u>High vs. Low</u>
Hot Carcass Weight, lbs.	865 vs. 787
Ribeye Area	13.6 vs. 12.8
Backfat	0.48 vs. 0.48
% Yield Grade 4	0.0 vs. 13.4
% Yield Grade 1 and 2	50.5 vs. 51.5
% Choice or Prime	82.5 vs. 35.1
Carcass Price, \$/cwt	\$141.32 vs. \$131.52

# Impact of Health on Profit



■ Percent Treated    ◆ Medication Cost



# % 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>
<u>Breed of Sire</u>					
Angus	270	26.7	25.6	23.3	24.4
Gelbvieh	18	11.1	16.7	33.3	38.9
Other Breeds	34	17.6	11.8	23.5	47.1
Shorthorn	42	23.8	26.2	33.3	16.7
SimAngus	24	29.2	41.7	25.0	4.2

“Other Breeds” = Breeds with fewer than 10 steers.  
Includes Charolais (9 steers), Red Angus (9), Hereford (7),  
Cross (4), Simmental (4), 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>
Sale Group					
03 IN 4/26	76	36.8	38.2	15.8	9.2
04 IN 5/3	61	54.1	27.9	11.5	6.6
08 IN 5/17	42	23.8	23.8	31.0	21.4
10 IN 5/18	80	18.8	32.5	33.8	15.0
11 IN 6/1	49	20.4	22.4	32.7	24.5
13 IN 6/21	80	1.3	5.0	27.5	66.3



# Heifers

# Heifer Feedlot Performance (Cooperator Average)



	<u>Average</u>	<u>Range</u>
Delivery Point Weight, lbs.	560	514 to 617
Initial Value at Delivery, \$/cwt	\$87.57	\$85.32 to \$90.28
Feedlot In Weight, lbs.	538	507 to 582
Sale Weight	1133	1091 to 1161
Days on Feed	187	182 to 195
Daily Gain	3.20	3.02 to 3.36

# How Heifers Were Sold

## Base Price and Grid



Sale Group	Sell Date	Base Price	Premiums		Discounts			Avg. \$/cwt
			Prime	CAB	Select	Standard	Y4	
05 IN	5/3	\$142.00	--	\$2.00	\$3.50	--	\$15.00	\$142.49
09 IN	5/17	\$140.00	\$6.00	\$3.00	\$3.00	--	\$15.00	\$139.06
12 IN	6/1	\$138.00	--	--	\$5.00	\$12.00	--	\$134.06
14 IN	6/21	\$134.00	--	\$3.00	\$5.00	--	--	\$133.96

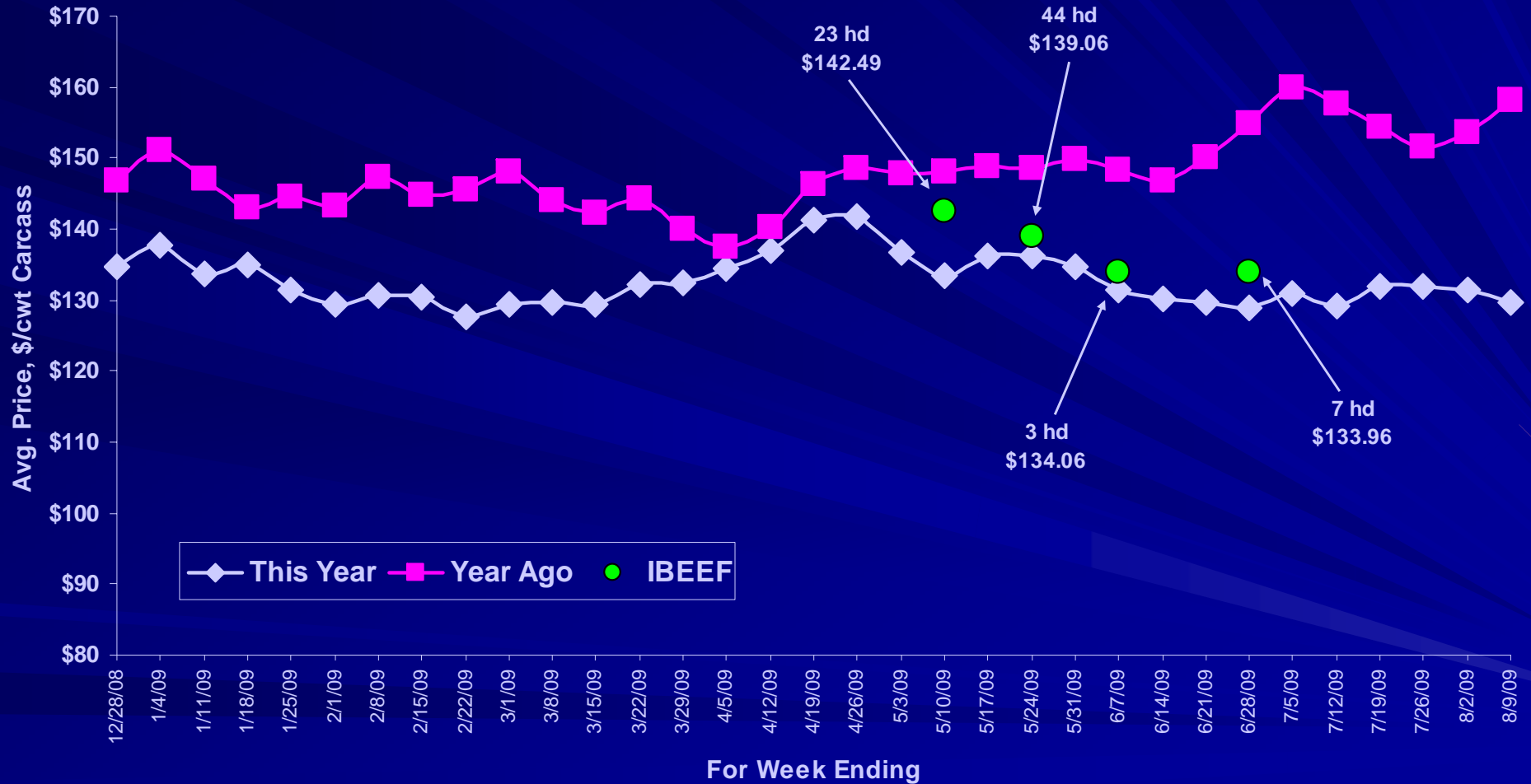
Base price, premiums, and discounts are \$/cwt

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

Other Discounts: Dark Cutter: \$55.00 (09 IN)

All cattle sold to Tyson Fresh Meats, Standard Grid, 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)

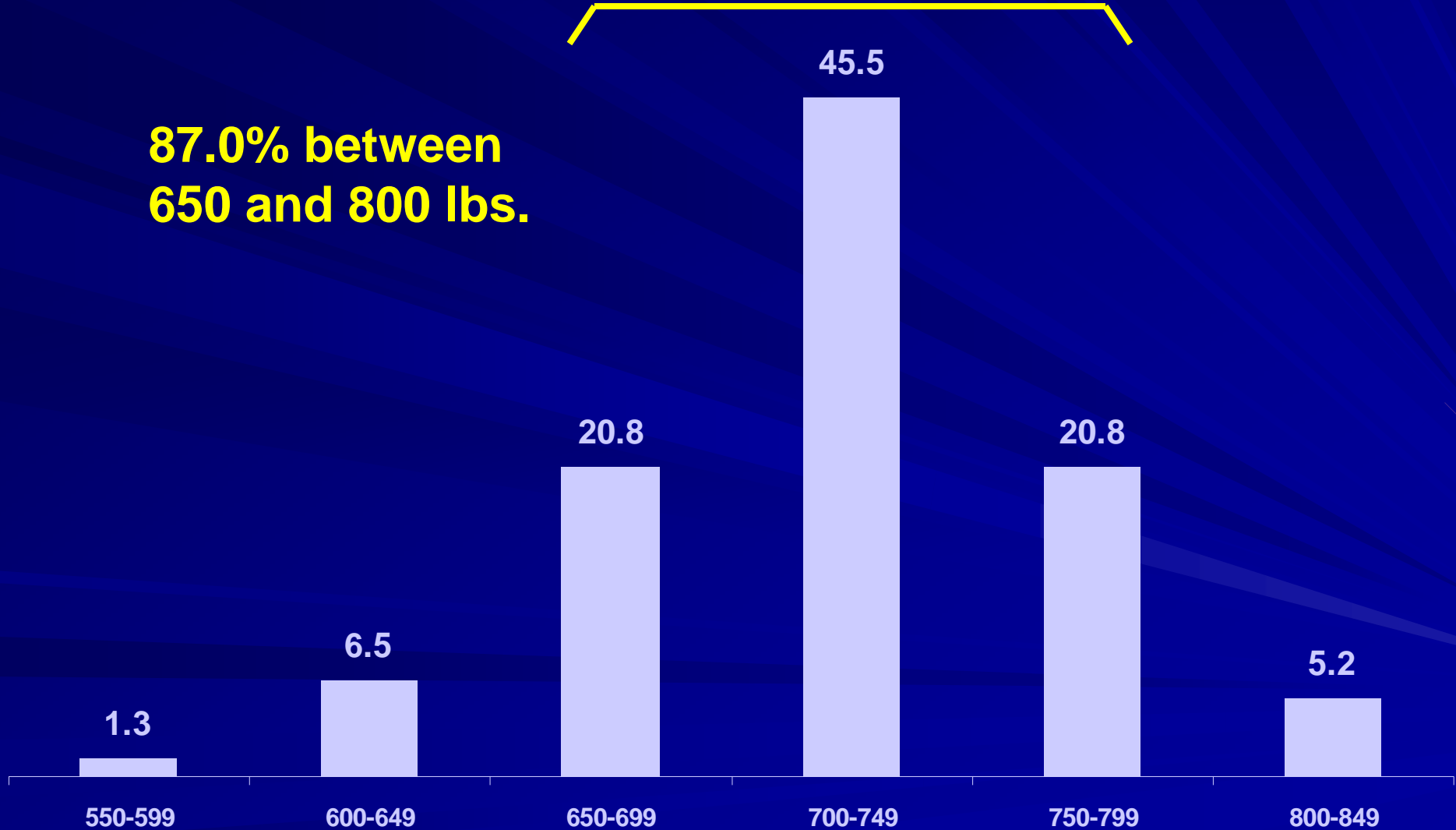


	<u>Average</u>	<u>Range</u>
Carcass Weight	719	698 to 734
Dressing %	63.4	62.7 to 64.1
Ribeye Area	12.2	12.0 to 12.5
REA/cwt carcass	1.69	1.62 to 1.74
Backfat	0.45	0.35 to 0.49
Yield Grade	3.0	2.8 to 3.1
% Choice or Prime	78.2	68.0 to 100.0
Sale Price, \$/cwt	\$139.82	\$137.82 to \$142.83
Sale Value/Hd.	\$1,004.51	\$961.75 to \$1,033.63

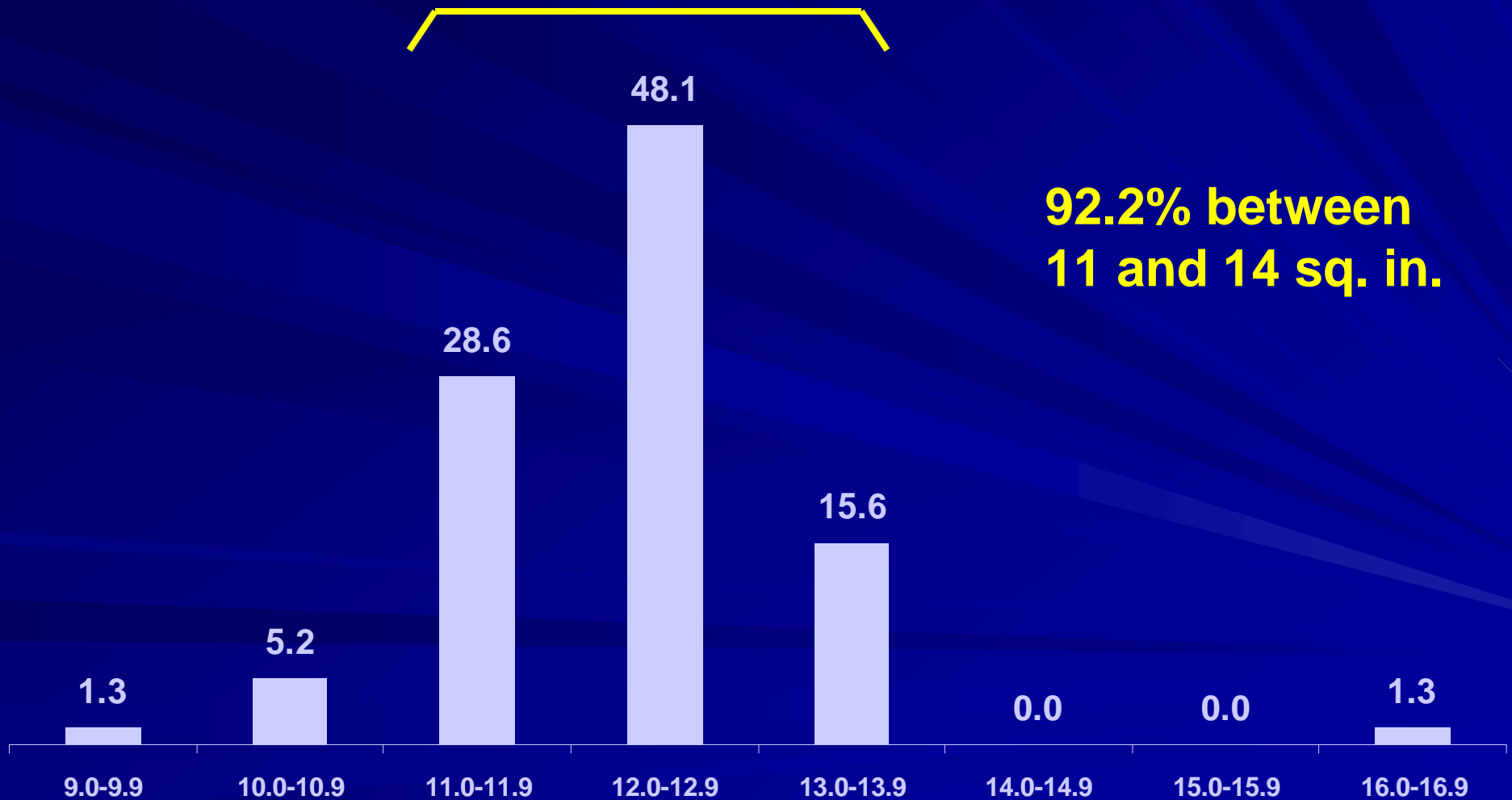
# Heifers Carcass Weight



**87.0% between  
650 and 800 lbs.**



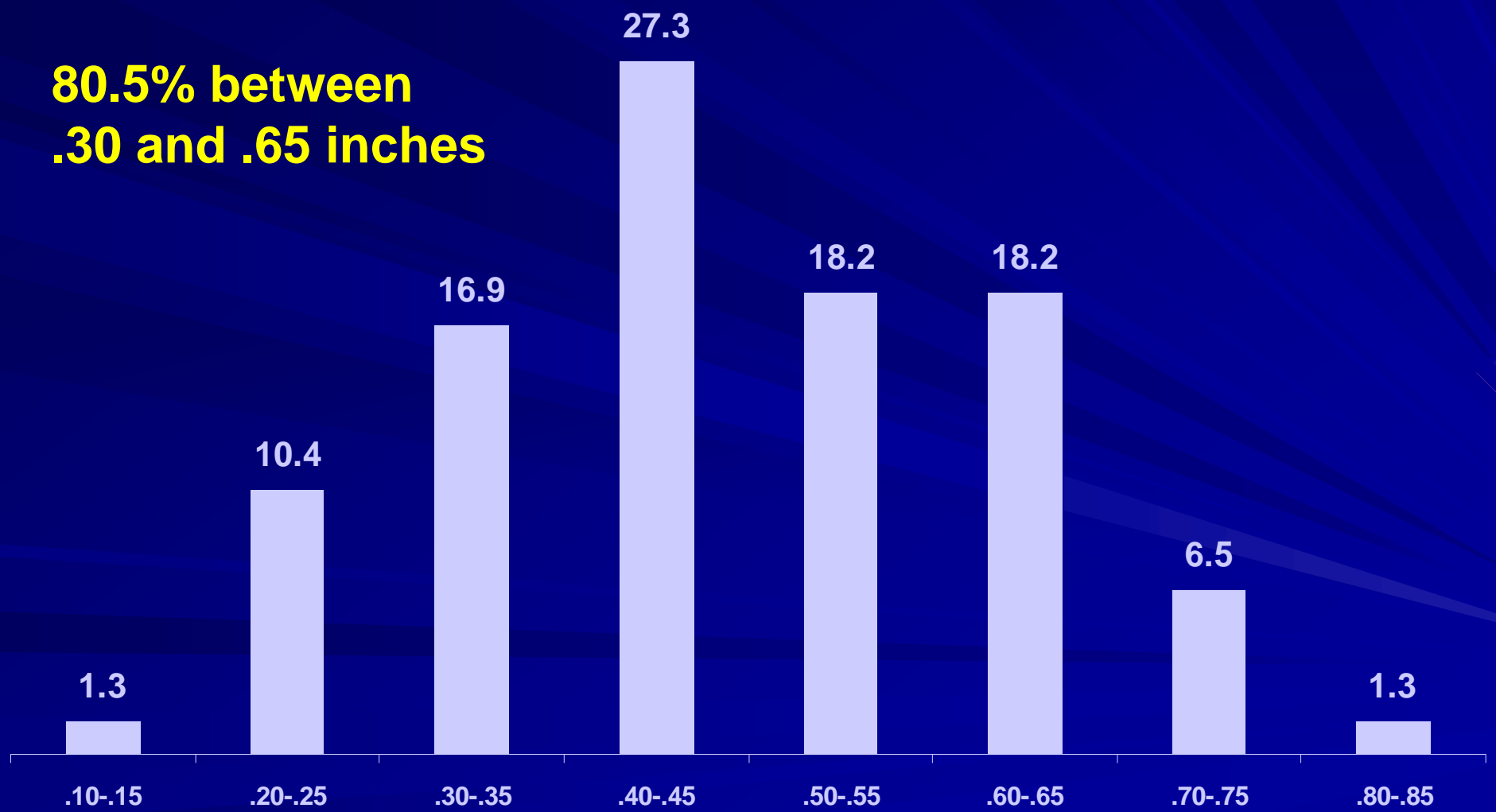
# Heifers Ribeye Area



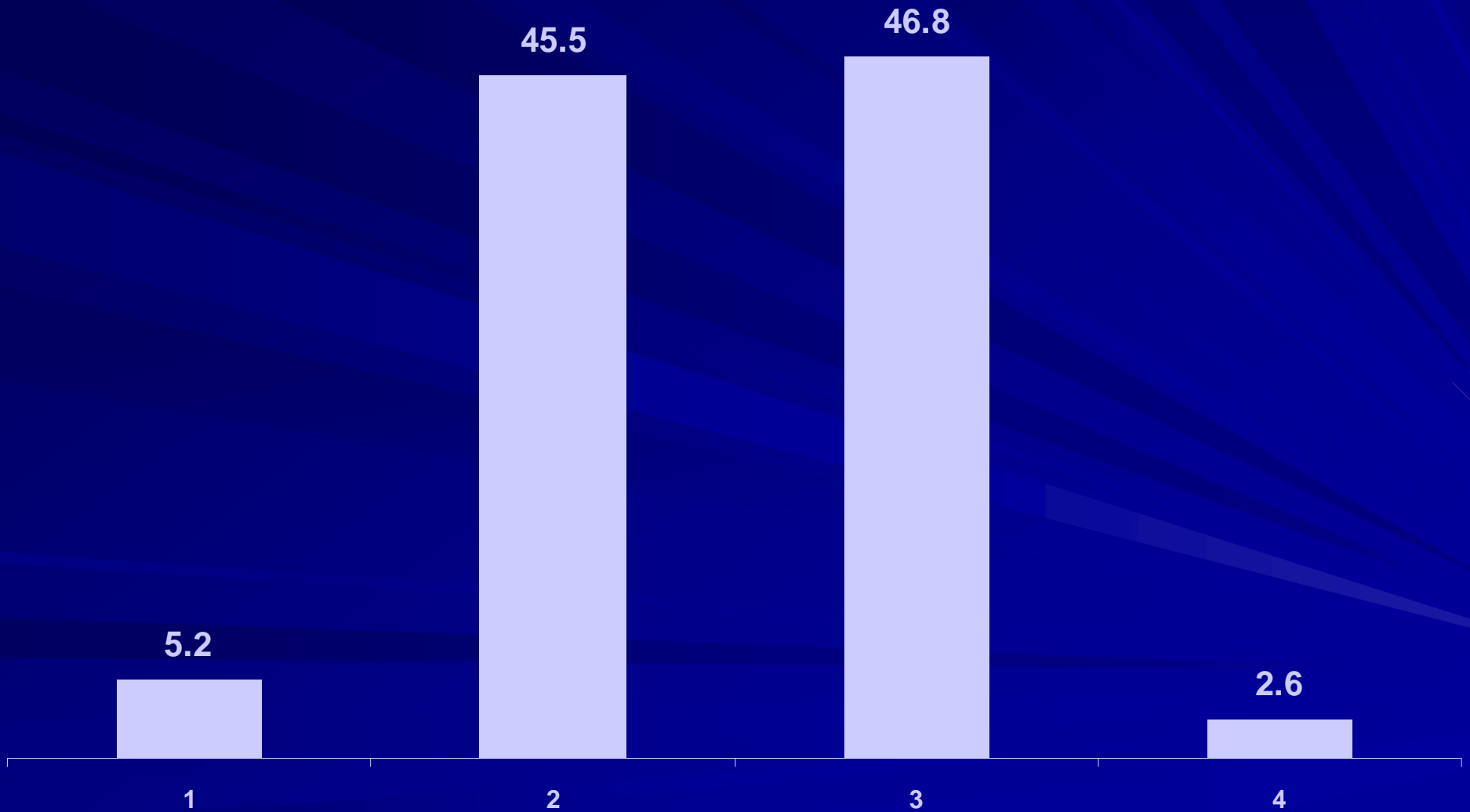
# Heifers Backfat



**80.5% between  
.30 and .65 inches**



# Heifers Yield Grade



# Heifer Feeding Cost (Cooperator Average)



	<u>Average</u>	<u>Range</u>
Feed	\$326.71	\$320.22 to \$334.72
Medication	\$2.22	\$0.00 to \$5.93
Yardage	\$56.65	\$55.30 to \$59.10
Misc. (processing, trucking, data collection)	\$69.11	\$66.86 to \$72.93
Total	\$454.70	\$444.96 to \$463.42

# Heifers - The Bottom Line (Cooperator Average)



	<u>Average</u>	<u>Range</u>
Feed Cost of Gain, \$/cwt	\$55.16	\$52.39 to \$57.31
Nonfeed Cost of Gain, \$/cwt	\$21.70	\$20.45 to \$22.69
Total Cost of Gain, \$/cwt	\$76.86	\$72.84 to \$79.66
Profit/Head	\$57.75	\$23.92 to \$94.48
Break Even Feeder Calf Value, \$/cwt	\$98.50	\$91.43 to \$107.05

# Heifer Profit Groups



<u>Profit Group</u>	<u>No. Heifers</u>	<u>Profit \$/Hd.</u>	<u>Break Even Feeder Calf Value, \$/cwt</u>
1	20	\$117.04	\$107.80
2	19	\$77.83	\$102.38
3	19	\$43.03	\$94.71
4	19	-\$44.79	\$79.73
<hr/>			
Average		\$48.28	\$96.16

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



	<u>High vs. Low</u>
Delivery Point Weight, lbs.	577 vs. 565
Start Weight, lbs.	565 vs. 531
% Shrink (delivery - feedlot in)	-2.00 vs. -5.99
Final Weight, lbs.	1183 vs. 1083
Feedlot Daily Gain	3.46 vs. 2.81
Medication Cost	\$2.21 vs. \$2.25
Total Feedlot Cost	\$449.98 vs. \$468.47
Cost of Gain, \$/cwt	\$73.09 vs. \$85.18
Days on Feed	179 vs. 198

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

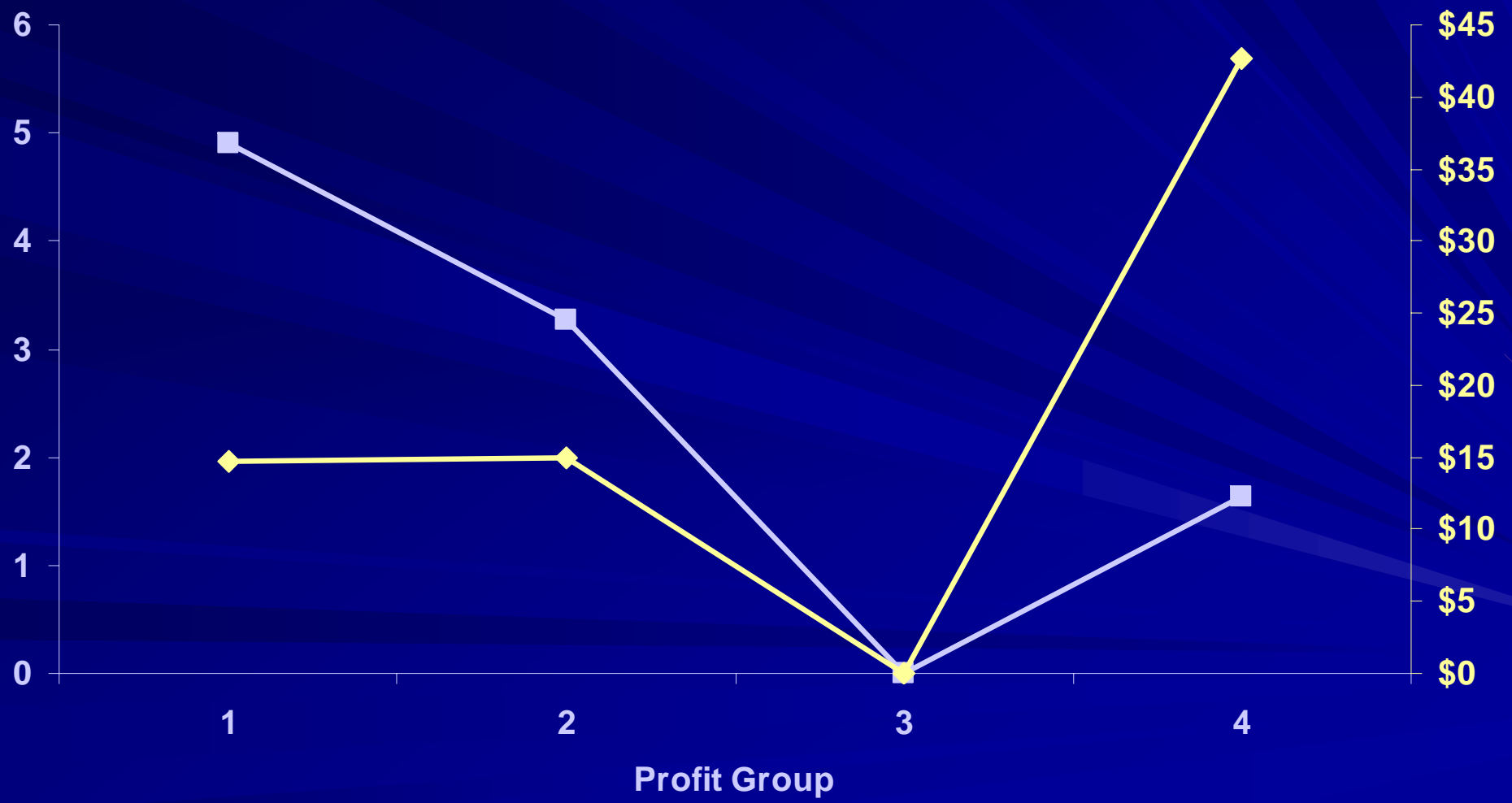


	<u>High vs. Low</u>
Hot Carcass Weight, lbs.	749 vs. 688
Ribeye Area	12.5 vs. 11.7
Backfat	0.43 vs. 0.41
% Yield Grade 4	0.0 vs. 10.5
% Yield Grade 1 and 2	60.0 vs. 63.2
% Choice or Prime	95.0 vs. 63.2
Carcass Price, \$/cwt	\$142.83 vs. \$133.89

# Impact of Health on Profit



■ Percent Treated    ◆ Medication Cost



# % 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>
Breed of Sire					
Angus	55	30.9	25.5	20.0	23.6
Other Breeds	10	20.0	20.0	30.0	30.0
SimAngus	12	8.3	25.0	41.7	25.0

“Other Breeds” = Breeds with fewer than 10 heifers.  
Includes Shorthorn (8 heifers), Cross (1), and Gelbvieh (1).

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



<u>Category</u>	No. <u>Heifers</u>	Profit Group			
		<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>
Sale Group					
05 IN 5/3	23	52.2	30.4	13.0	4.3
09 IN 5/17	44	18.2	25.0	31.8	25.0
12 IN 6/1	3	0.0	0.0	66.7	3.3
14 IN 6/21	7	0.0	14.3	0.0	85.7

# Factors That Affect Profitability



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

# Profit



■ Profit = Value – (Feeding Cost + Calf Value)

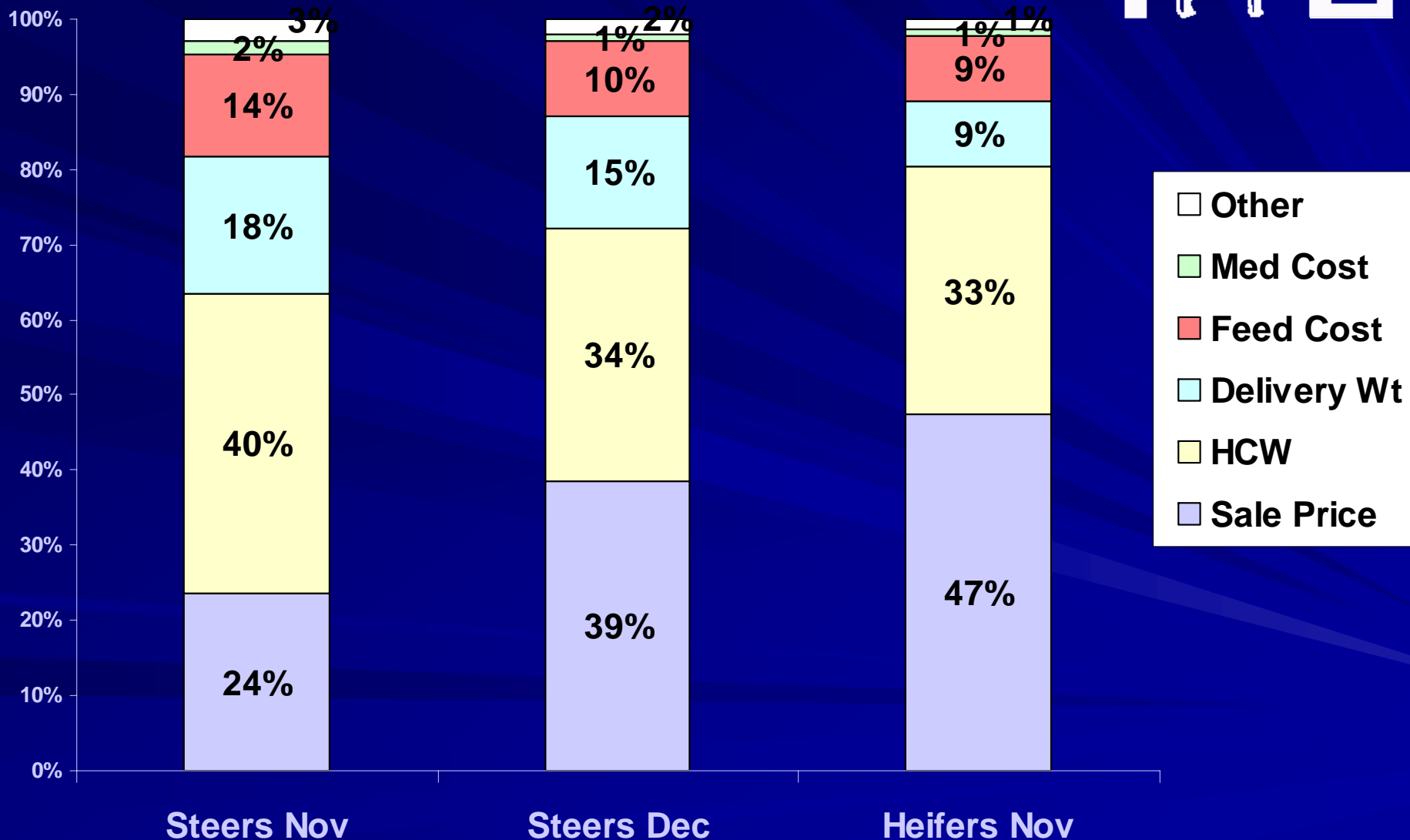
■ Steers:

$$\$53.97 = \$1,135.66 - (\$474.74 + \$606.95)$$

■ Heifers:

$$\$49.17 = \$1,002.41 - (\$455.28 + \$497.96)$$

# Factors Affecting Variation in Profit



# Factors Affecting Variation in Profit



## ■ Steers Nov

Profit = -1471.41  
+8.45 Sale Price  
+1.46 HCW  
-0.65 Delivery Wt  
-1.19 Feed Cost  
-1.33 Med Cost

$R^2 = .972$

## ■ Steers Dec

Profit = -1552.40  
+9.10 Sale Price  
+1.29 HCW  
-0.53 Delivery Wt  
-1.04 Feed Cost  
-1.07 Med Cost

$R^2 = .979$

## ■ Heifers Nov

Profit = -1278.37  
+7.25 Sale Price  
+1.48 HCW  
-0.54 Delivery Wt  
-1.35 Feed Cost  
-1.25 Med Cost

$R^2 = .988$

# Factors Affecting Variation in Profit



## ■ Steers Nov

\$1.00 ↑ in Sale Price	⇒	\$8.45 ↑ in Profit
1 lb ↑ in HCW	⇒	\$1.46 ↑ in Profit
1 lb ↑ in Delivery Wt	⇒	\$0.65 ↓ in Profit
\$1.00 ↑ in Feed Cost	⇒	\$1.19 ↓ in Profit
\$1.00 ↑ in Med Cost	⇒	\$1.33 ↓ in Profit

# Factors Affecting Variation in Profit



## ■ Steers Dec

\$1.00 ↑ in Sale Price	⇒	\$9.10 ↑ in Profit
1 lb ↑ in HCW	⇒	\$1.29 ↑ in Profit
1 lb ↑ in Delivery Wt	⇒	\$0.53 ↓ in Profit
\$1.00 ↑ in Feed Cost	⇒	\$1.04 ↓ in Profit
\$1.00 ↑ in Med Cost	⇒	\$1.07 ↓ in Profit

# Factors Affecting Variation in Profit



## ■ Heifers Nov

\$1.00 ↑ in Sale Price	⇒	\$7.25 ↑ in Profit
1 lb ↑ in HCW	⇒	\$1.48 ↑ in Profit
1 lb ↑ in Delivery Wt	⇒	\$0.54 ↓ in Profit
\$1.00 ↑ in Feed Cost	⇒	\$1.35 ↓ in Profit
\$1.00 ↑ in Med Cost	⇒	\$1.25 ↓ in Profit

IBEEF Participation



Data



Information



Knowledge



Action



# For more information about IBEEF:



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