

Cattle Marketing Decisions

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Overview

- Tools and resources
- Understanding costs and change in cost
- Risk exposure
- Risk management tools
- Analysis

Planning Budgets at Ag Decision Maker

- <http://www.extension.iastate.edu/agdm/>
 - [Finishing Yearling Steers](#)
 - [Finishing Steer Calves](#)
 - [Finishing Yearling Heifers](#)
 - [Backgrounding Steer Calves](#)
 - [Beef Cow-Calf](#)
 - [Livestock Revenue Protection \(LRP\) Analyzer](#)

Additional resources available at:

http://www.econ.iastate.edu/faculty/lawrence/Lawrence_website/cattle.htm

- [Managing Cattle Price Risk with Futures and Options Contracts 87-06](#)
- [Optimal Marketing Dates for Feedlot Enterprise Profitability](#)
- [Change in Cattle Prices by Two Week Period, 1996-2005](#)
- [Cattle price forecast errors in the last 10 and 15 years: Futures and seasonal index](#)
- [How Profitable is Backgrounding Cattle?](#)
- [Feeder Cattle Placement Strategies](#)

Understanding Costs and Changing Costs

Breakeven Purchase Price to Pay for 650# Steer Sold at 1300#

Corn Price	Fed Cattle Selling Price					
	\$90	\$95	\$100	\$105	\$110	\$115
\$4.00	\$101	\$110	\$120	\$130	\$139	\$149
\$4.50	\$97	\$107	\$116	\$126	\$136	\$146
\$5.00	\$94	\$103	\$113	\$123	\$132	\$142
\$5.50	\$90	\$100	\$110	\$119	\$129	\$139
\$6.00	\$87	\$97	\$106	\$116	\$126	\$135
\$6.50	\$84	\$93	\$103	\$113	\$122	\$132
\$7.00	\$80	\$90	\$100	\$109	\$119	\$129
\$7.50	\$77	\$86	\$96	\$106	\$115	\$125
\$8.00	\$73	\$83	\$93	\$102	\$112	\$122

40% MGDS @ \$85, Hay \$75, Int 6%, Trucking \$30, Deathloss 1%, Yardage \$.35

Backgrounding

- Nov 1 450# @ \$120 to Apr 1 750# @ \$115
- 27 bu corn @ \$7.50 & .5 ton hay @ \$85

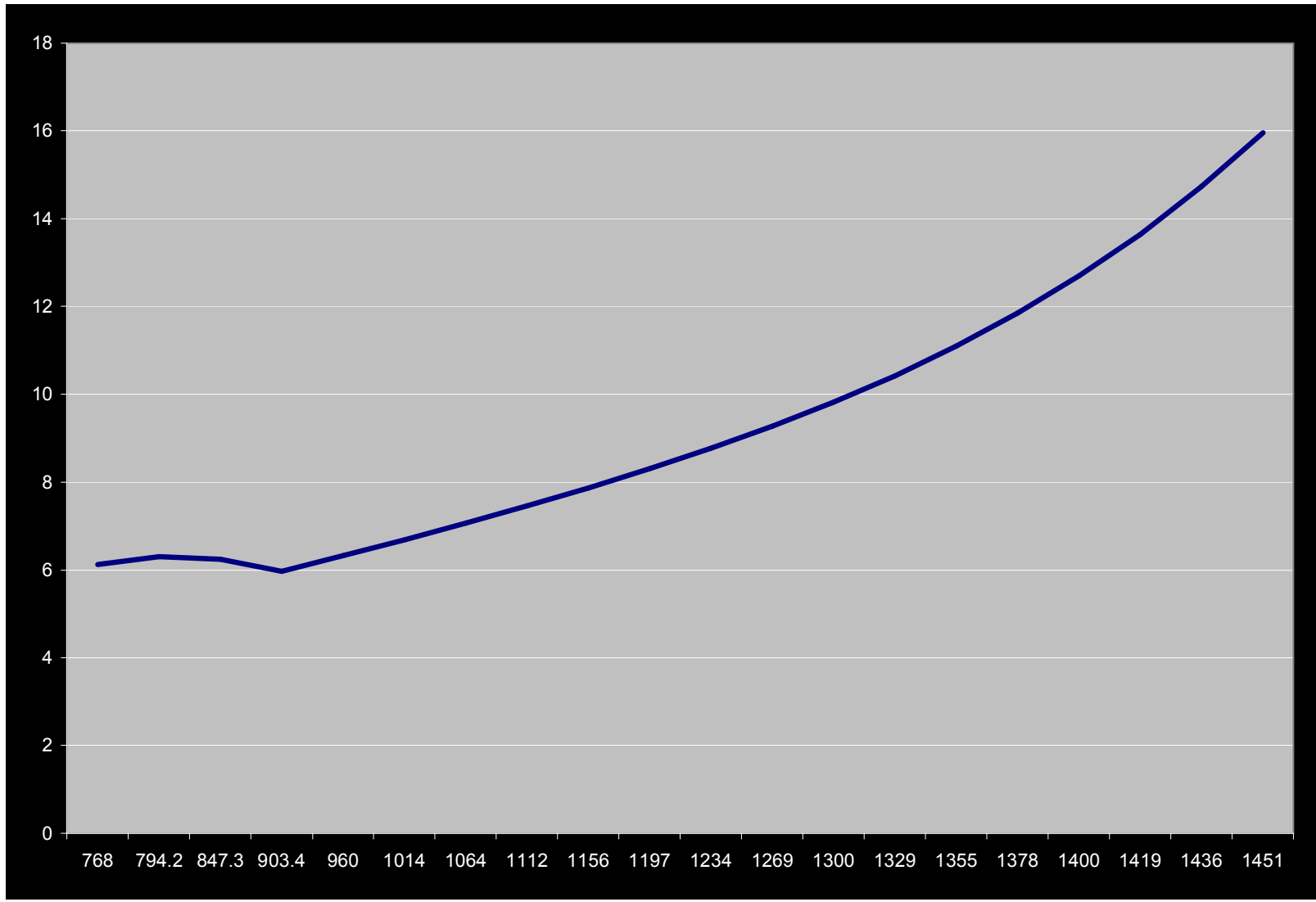
- Feed costs \$258
- Non-feed costs \$85
- Return over variable cost -\$6
- Return over total cost -\$20

Finishing

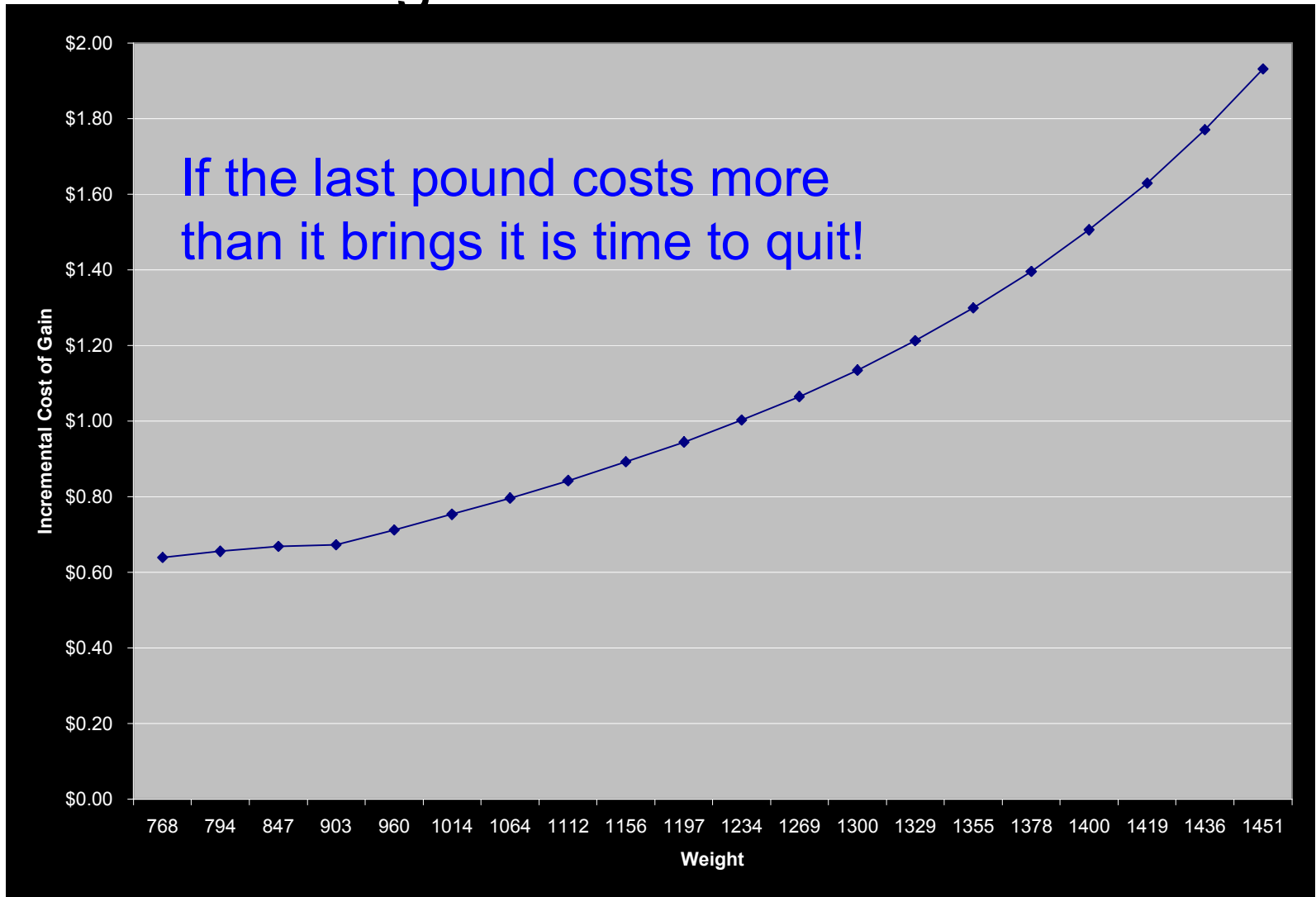
- Nov 1 550# @ \$113 to Jun 1 1250# @ \$115
- 48 bu corn @ \$7.50 & 1.9 ton MDGS @ \$85

- Feed costs \$569
- Non-feed costs \$152
- Return over variable cost \$96
- Return over total cost \$75

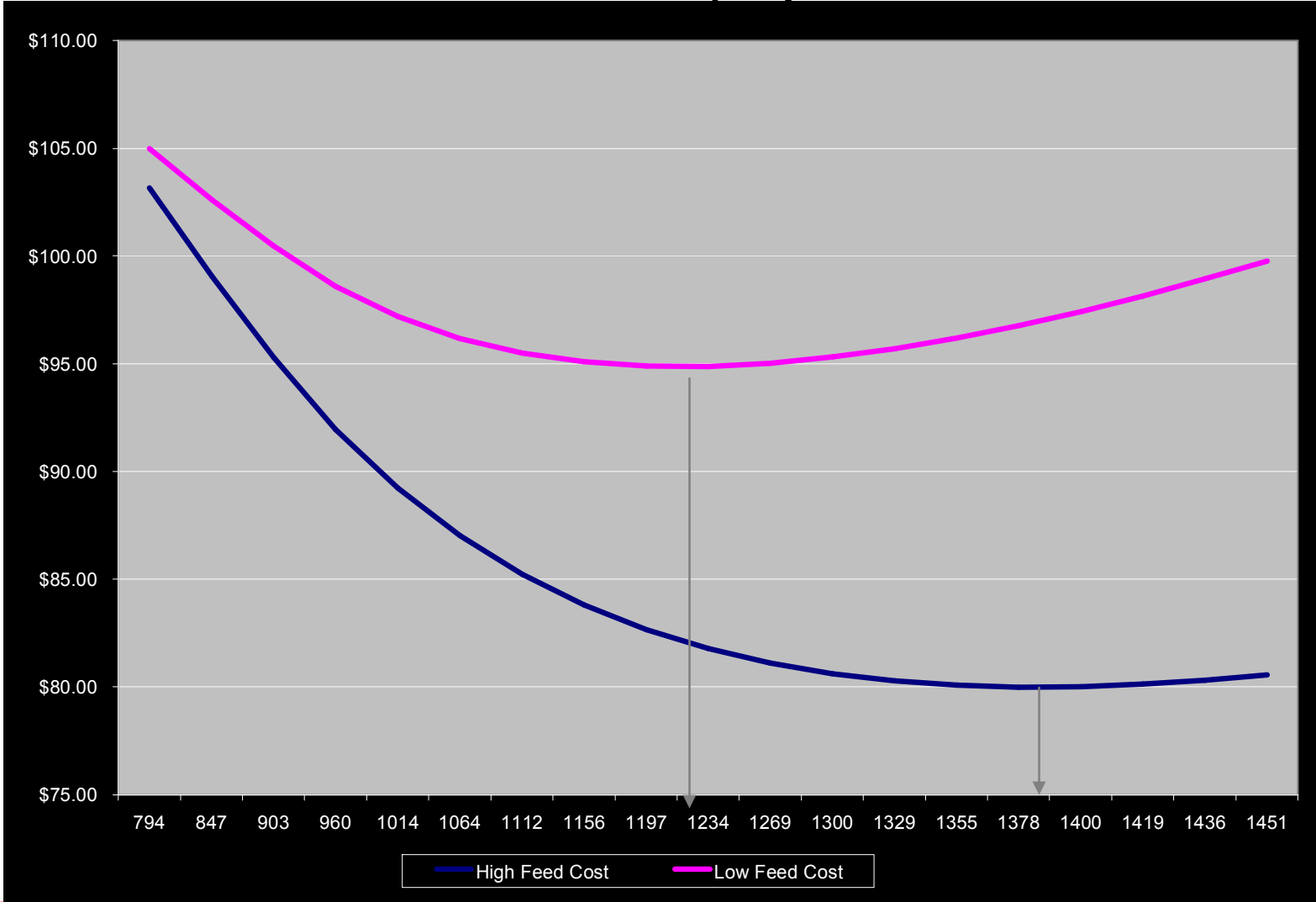
Feed/Gain and Weight



Marginal Cost of Gain



Minimal Breakeven (Optimal Cost of Gain)



Optimal Marketing Weight

- Scenario
 - 1200# steers fed to 1250#
 - \$150/cwt base price, \$6 C-S spread

 - With \$2.00/bu corn it adds \$25/hd profit
 - With \$7.50/bu corn it creates \$9/hd loss

Risk Exposure

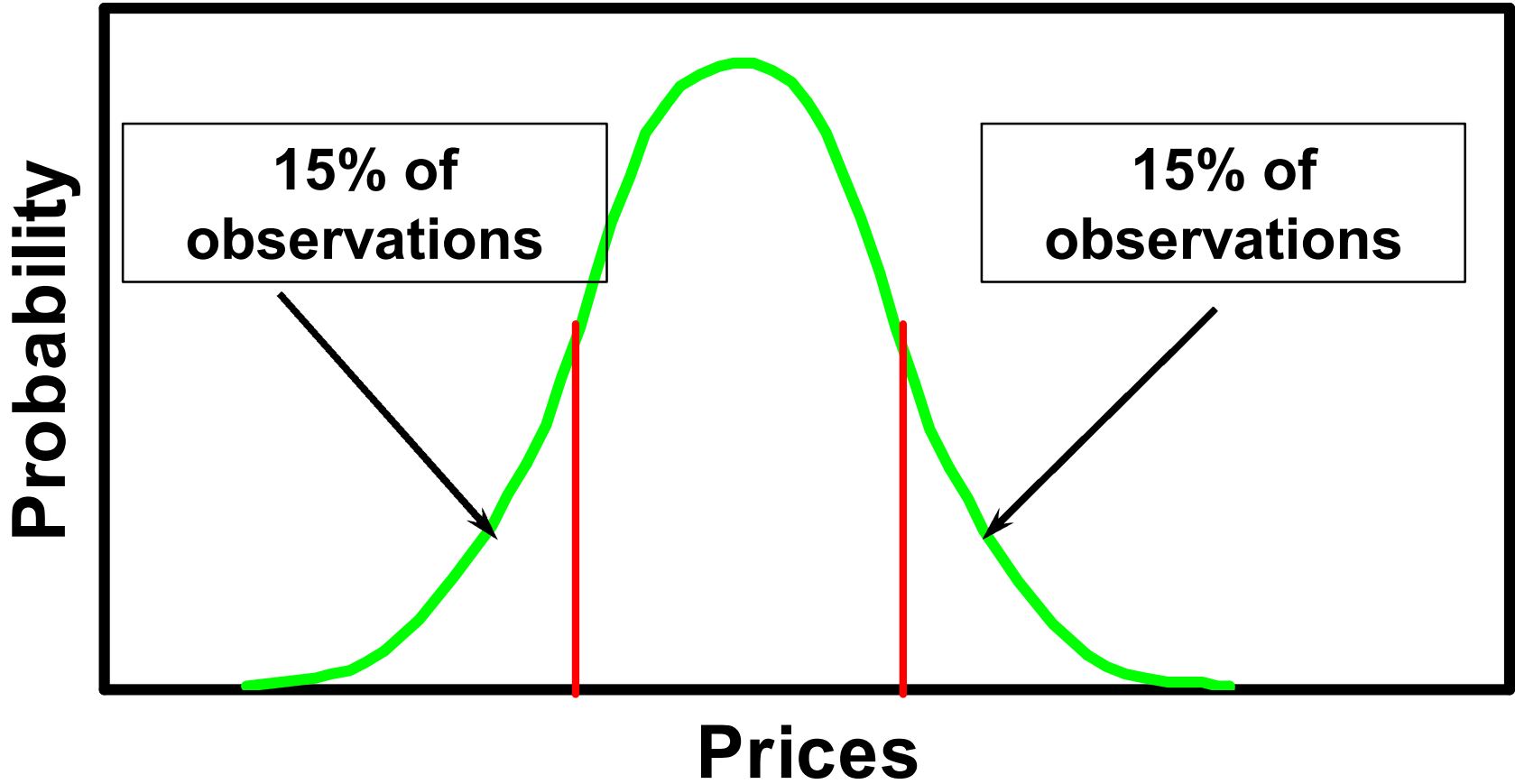
Futures as a Cattle Price Forecast Error Term by Length of Forecast

Qtrs Out	1	2	3	4
Average	0.05	0.59	0.95	0.80
Std Dev	3.86	4.97	6.33	6.89
Min	-14.78	-9.58	-11.73	-13.06
Max	6.73	12.12	14.41	16.93

Error = Actual – Forecast

1995-2004 time period

Accuracy of Price Forecasts



Risk Management Tools

- Futures market
 - Hedging
 - Buy a Put Option
- Forward Contract
- Livestock Revenue Insurance
 - Livestock Risk Protection (LRP)
 - Livestock Gross Margin (LGM)

Feeder Cattle Futures Contract

- Feeder Cattle Futures Contract (FC)
 - 50,000 pounds (67 hd- 750# feeder cattle)
 - Contract months—Jan, Mar, Apr, May, Aug, Sep, Oct, Nov
 - Contract expires last Thursday of contract month
 - Cash settle, no delivery
 - Margin account required

Live Cattle Futures Contract

- Live Cattle Futures Contract (LC)
 - 40,000 pounds (33 - 1200# cattle)
 - Contract Months—Feb, Apr, Jun, Aug, Oct, Dec
 - Expires last business day of the contract month
 - Contract settled by physical delivery of cattle
 - Margin account required

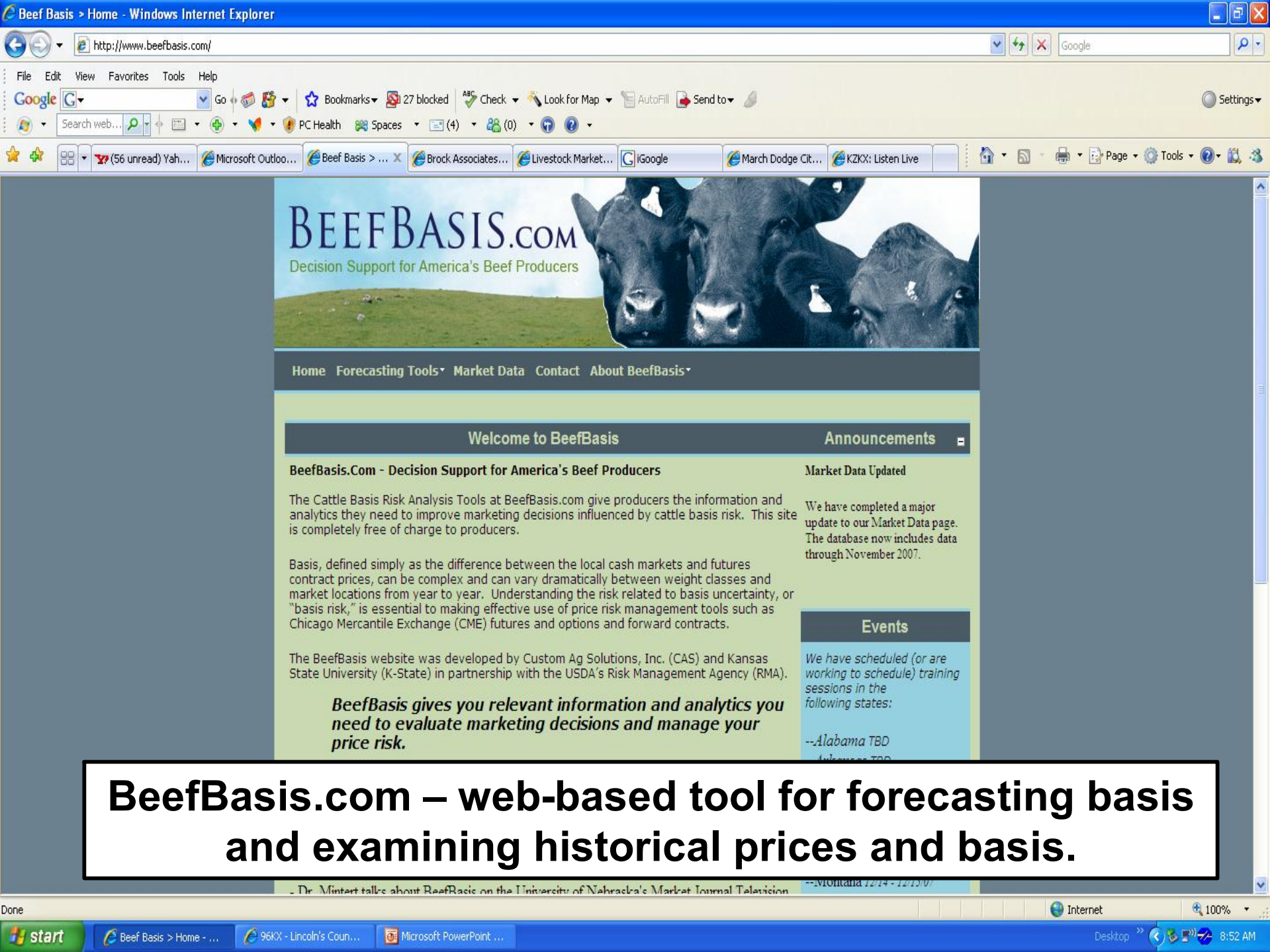
Option Hedging Strategies

- Buying a **PUT** gives option buyer right but not the obligation to **SELL** a futures contract at a specified price known as the “strike price”
- Therefore, you can buy a PUT to establish a “**Minimum Expected Selling Price**” or “**Floor Price**”

Minimum Expected Selling Price

\$104.00	Option Strike Price
- \$ 3.63	Put Premium
+ \$ 3.20	Expected 10/31 Basis
- \$ 0.12	Max. Possible Commission

\$103.45/cwt. Min. Expected Selling Price



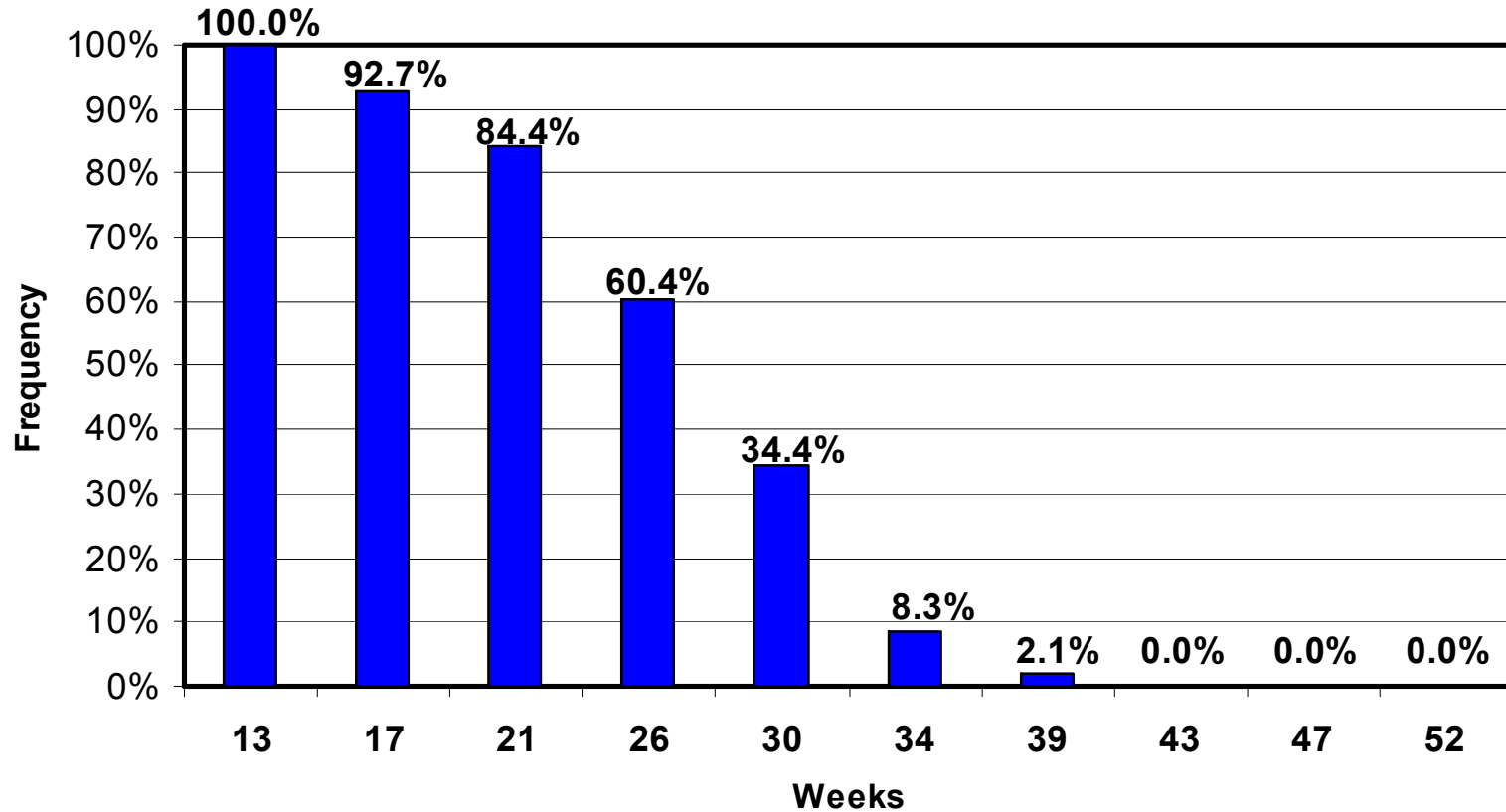
BeefBasis.com – web-based tool for forecasting basis and examining historical prices and basis.

Livestock Risk Protection Insurance

- LRP for feeder cattle available
 - Provides protection against a decline in Chicago Mercantile Exchange (CME) Feeder Cattle Price Index while you own cattle
- LRP for slaughter cattle is also available
 - Provides protection against a decline in the *5 Area Weighted Average Price* reported by USDA
- Buying LRP is similar to buying put options

Frequency of LRP Coverage Offerings

July 2, 2007 thru November 16, 2007



Based on 96 reported days

Price Adjustment Factors for Feeder Cattle

Weight Range	Steers	Heifers	Predominantly Brahman	Predominantly Dairy
<6.0 cwt	110%	100%	100%	85%
6.0-9.0 cwt	100%	90%	90%	80%

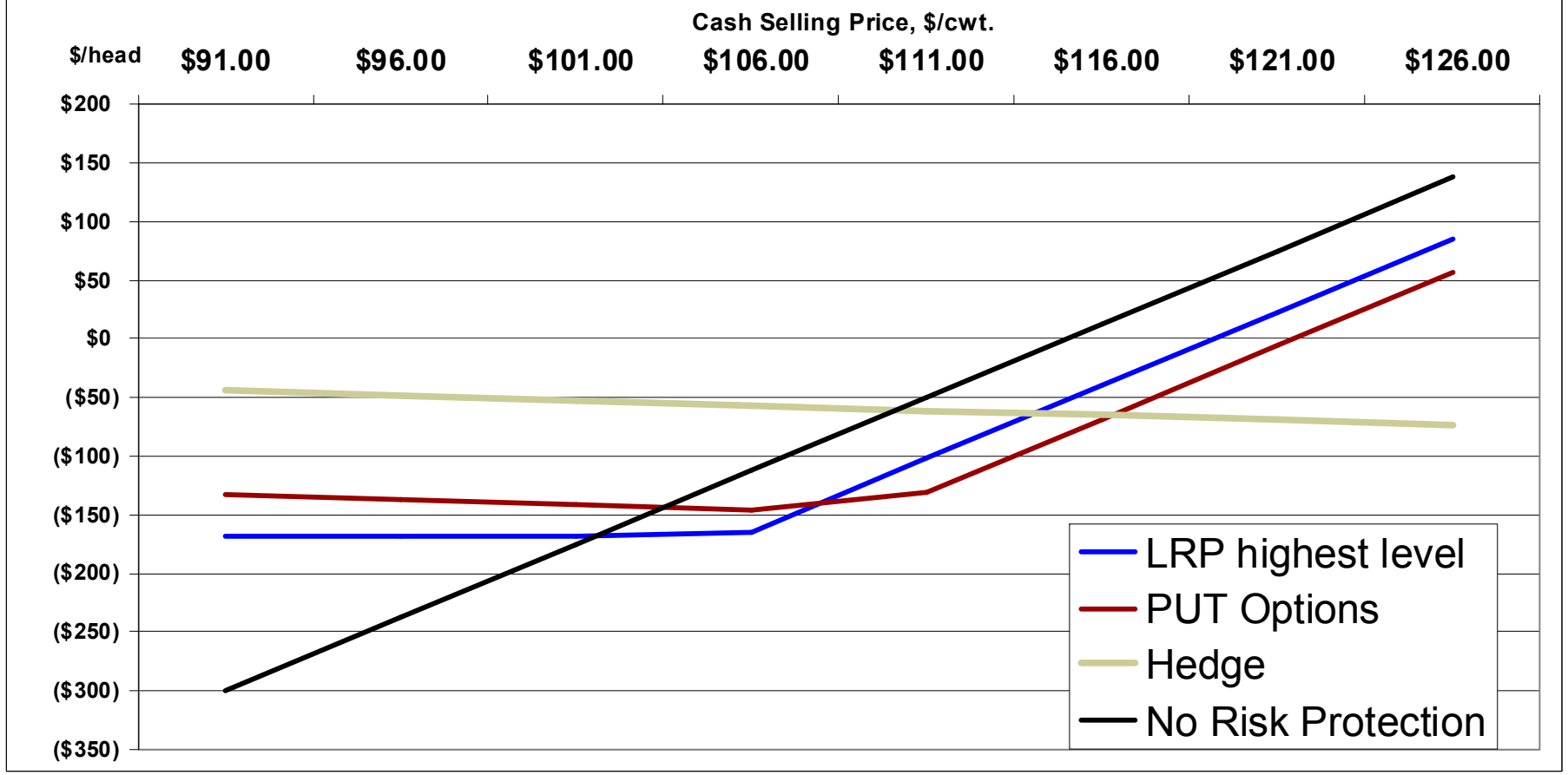
Minimum Expected Selling Price

- Start with LRP coverage price
- Subtract the LRP premium

This creates a “CME cash index equivalent”

- then add basis forecast
- but is this the same basis forecast we used for futures and options?

Projected Net Revenue per Head



Put v. LRP

- Size
- Basis
- Coverage level

Livestock Gross Margin Insurance

- LGM protects against adverse price moves that cause the gross feeding margin to narrow
- **Gross margin for Cattle** = market value of fed cattle less feeder cattle and corn costs
- Thought of as a “bundle” of options
- Eleven month policy

LGM Example

- Purchase LGM policy January 31, 2006
- Yearling finishing operation in Iowa
- August 2006 target marketing month

– Yearling Finishing Operation

$$\begin{aligned} \text{EGM}_{\text{Aug.}} &= (12.50 \text{ cwt} * \text{Live Cattle Price}_{\text{Aug}}) \\ &\quad - (7.50 \text{ cwt} * \text{Feeder Cattle Price}_{\text{Mar}}) \\ &\quad - (57.5 \text{ bu} * \text{Corn Price}_{\text{Ave May+Jul}}) \end{aligned}$$

Gross Margin Guarantee (GMG)

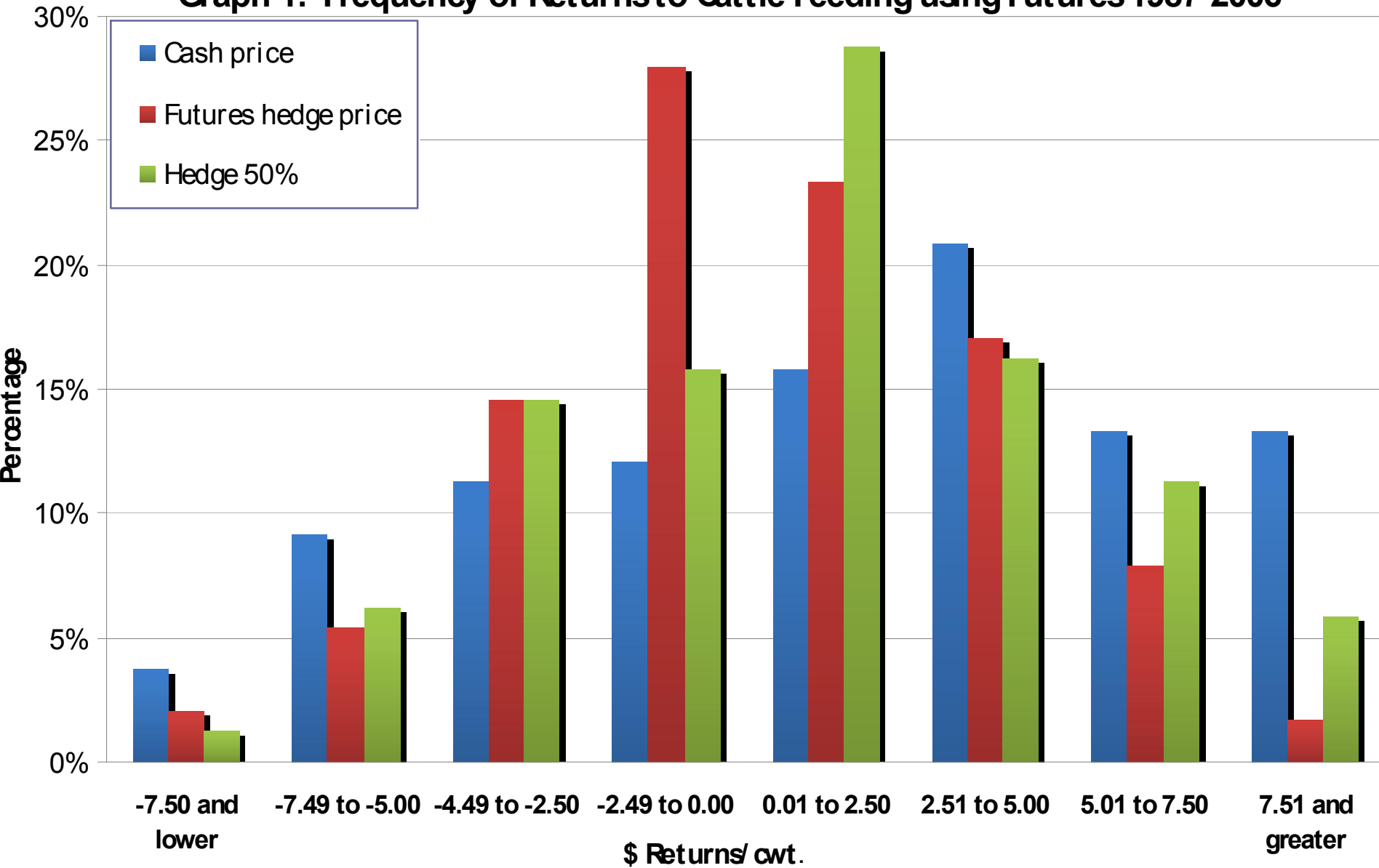
- $GMG = EGM - \text{Deductible}$
- Deductible
 - \$0-\$150 per head
 - Must be same for each insurance period
 - *Similar to car insurance deductible*
- $GMG = \$104.85 - \10
- **GMG = \$94.85/ head**

Returns to Alternative Cattle Feeding Risk Management Strategies, 1987-2006

All returns are \$/cwt.

	Avg	Min	Max	Std Dev	Positive Returns	Beats Cash
Cash Price	2.76	-9.76	33.77	8.31	64%	NA
Futures	-0.24	-7.83	13.90	3.65	50%	39%
50% Futures	1.27	-5.84	23.83	5.32	62%	39%
1 OTM put	0.98	-10.51	32.07	7.87	55%	14%
ATM put	0.62	-11.23	31.55	7.79	53%	18%
1 ITM put	1.24	-12.01	30.88	7.89	56%	25%

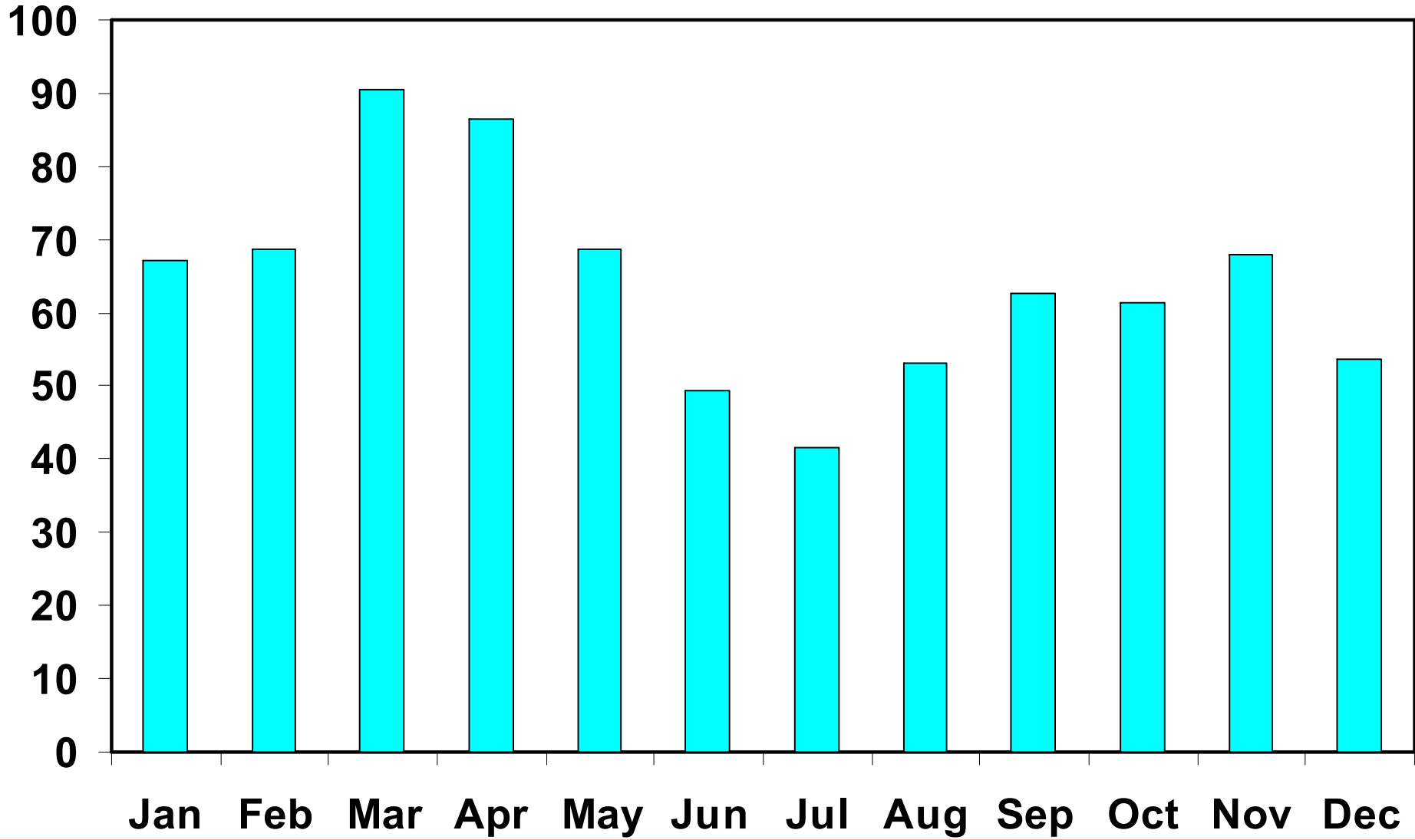
Graph 1: Frequency of Returns to Cattle Feeding using Futures 1987-2006



Percent of Days with Hedgeable Return (\$/cwt) 1990-1999



Percent of Days with Hedgable Profit, 1990-99



Summary

- Know your costs and how they change
- Plan ahead and consider alternatives
- Understand the tools
- Open accounts if you think you may use it
- Separate risk management from revenue enhancement