



# **Improving Your Cattle Risk Management Skills Using BeefBasis.com**

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**&**  
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**Custom Ag Solutions**

**Corn Belt Cow-Calf Conference**  
**Ottumwa, IA**  
**February 23, 2008**

# Background

*BeefBasis came about through a partnership between public and private entities*

- Custom Ag Solutions
- Kansas State University
- USDA – Risk Management Agency

# Feeder Cattle Basis

***Basis = Cash price – Futures Price***

***Cash price = Futures price + Basis***

*Futures price*

***+ Expected basis***

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*Expected cash price*

# The Problem

- **Effective price risk management requires that you be able to forecast basis**

*Futures price*

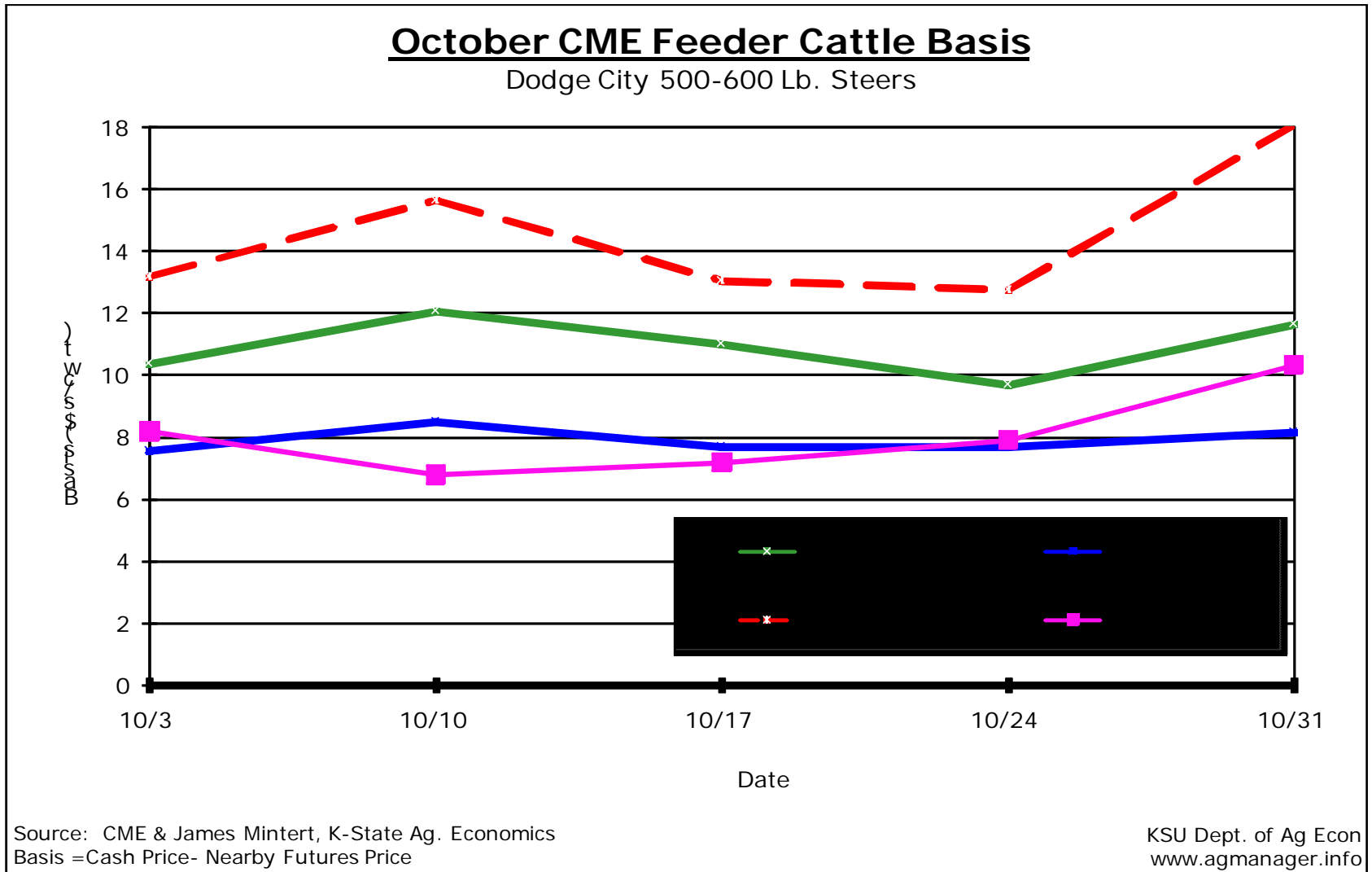
**+ *Expected basis***

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*Expected cash price*

- **But basis can vary dramatically between feeder cattle weight classes, market locations, and from year to year**

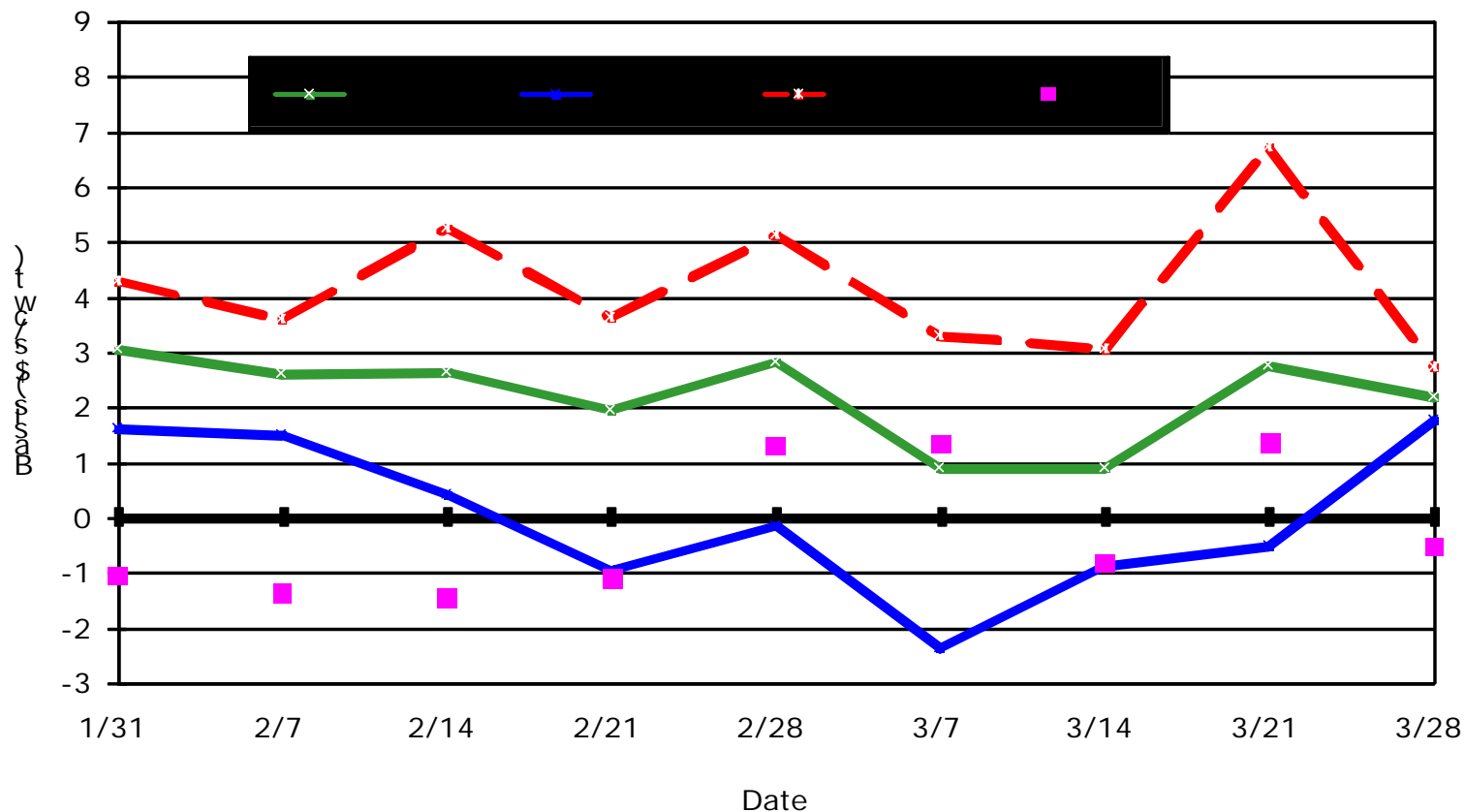
# Light Weight Steer Basis Is Extremely Variable



# Heavy Weight Steer Basis Differs Dramatically From Light Weight Basis

## March CME Feeder Cattle Basis

Dodge City 700-800 Lb. Steers



Source: CME & James Mintert, K-State Ag. Economics  
Basis = Cash Price - Nearby Futures Price

KSU Dept. of Ag Econ  
www.agmanager.info

# The Solution

- **Research on feeder cattle prices suggests many factors affect cash prices**
  - **Key Variables: sex, weight, lot size, frame size, corn prices, fed cattle prices, market location**
- **Factors that affect cash feeder cattle prices also impact basis**
- **Transaction level sales data for multiple years and market locations are required to quantify these variables' impact on basis**

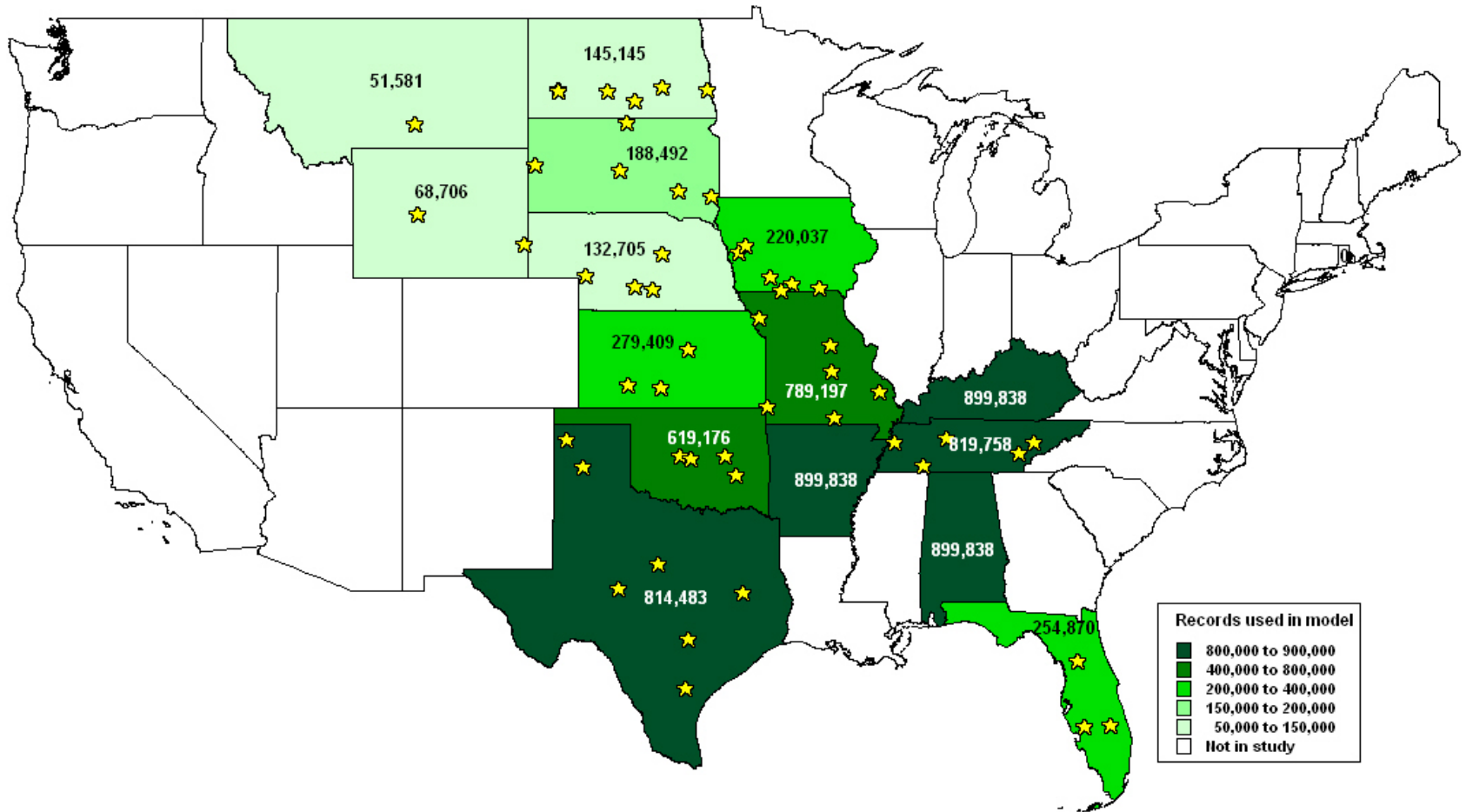
# The Solution

**Develop a web-based feeder cattle basis forecasting tool where forecasts are region-specific and account for cattle type and current market conditions**

**[www.BeefBasis.com](http://www.BeefBasis.com)**



# States, locations, and number of observations used in BeefBasis models



# Modeling

## Model inputs/variables

- **Lot characteristics (supplied by producer)**
  - **Location**
  - **Frame and Class (grade)**
  - **Expected Weight**
  - **Sex**
  - **Expected Sale Date**
  - **Lot Size**

# Modeling

## Feeder Cattle Futures Basis Models

- **Feeder Cattle Model**

FC Basis = f(lot size, weight, sex, frame, class, contract change, **feeder cattle futures**, month)

- **Live Cattle & Corn Model**

FC Basis = f(lot size, weight, sex, frame, class, contract change, **live cattle and corn futures**, month)

# BEEFBASIS.COM

Decision Support for America's Beef Producers



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## Welcome to BeefBasis

### BeefBasis.Com - Decision Support for America's Beef Producers

The Cattle Basis Risk Analysis Tools at BeefBasis.com give producers the information and analytics they need to improve marketing decisions influenced by cattle basis risk. This site is completely free of charge to producers.

Basis, defined simply as the difference between the local cash markets and futures contract prices, can be complex and can vary dramatically between weight classes and market locations from year to year. Understanding the risk related to basis uncertainty, or "basis risk," is essential to making effective use of price risk management tools such as Chicago Mercantile Exchange (CME) futures and options and forward contracts.

The BeefBasis website was developed by Custom Ag Solutions, Inc. (CAS) and Kansas State University (K-State) in partnership with the USDA's Risk Management Agency (RMA).

***BeefBasis gives you relevant information and analytics you need to evaluate marketing decisions and manage your price risk.***

## BeefBasis In the News!

- BeefBasis is featured in the December issue of BEEF magazine [Read](#)

## Announcements

### Market Data Updated

We have completed a major update to our Market Data page. The database now includes data through November 2007.

## Events

*We have scheduled (or are working to schedule) training sessions in the following states:*

- Alabama TBD
- Arkansas TBD
- Florida TBD
- Iowa 2/22 - 2/23/08
- Kansas 11/30/06
- Kentucky 1/11/07
- Missouri 12/6 - 12/7/07
- Montana 12/6 - 12/7/07

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- Missouri 12/6 - 12/7/07
- Montana 12/11 - 12/12/07

## BeefBasis In the News!

- BeefBasis is featured in the December issue of BEEF magazine Read

# Feeder Cattle Basis Forecast

Hedge Analysis

State: <-SELECT-->

Expected Sale Date:

Weight:

lbs/head

Head:

Feeder Cattle Futures Price:

\$/cwt

Live Cattle Futures Price:

\$/cwt

Corn Futures Price:

\$/bu

February 2008						
Sun	Mon	Tue	Wed	Thu	Fri	Sat
27	28	29	30	31	1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	1
2	3	4	5	6	7	8

RUN

# Feeder Cattle Basis Forecast

[Hedge Analysis](#)

State: Iowa

Location: <<-SELECT->

Expected Sale Date: 2/10/2008

Sex: <<-SELECT->

Frame:

Grade: 1

Weight:

lbs/head

- <<-SELECT->
- Bloomfield
- Creston
- Denison
- Dunlap
- Humeston
- Lamoni

Feeder Cattle Futures Price:

105.03 \$/cwt

Live Cattle:

\$/cwt

Corn Futures Price:

5.08 \$/bu

Reference Contract: Mar 2008  
Transaction Date: Feb 08, 2008

Reference Contract: Mar 2008  
Transaction Date: Feb 08, 2008

February 2008						
Sun	Mon	Tue	Wed	Thu	Fri	Sat
27	28	29	30	31	1	2
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RUN

# Feeder Cattle Basis Forecast

Hedge Analysis

State: Iowa

Location: Creston

Sex: Steer

Frame: Lg & Med/Lg

Grade: 1

Weight:

525 lbs/head

Head:

25

Feeder Cattle Futures Price

112.55 \$/cwt

Live Cattle Futures Price:

103.85 \$/cwt

Corn Futures Price:

5.30 \$/bu

Reference Contract: Nov  
2008

Reference Contract: Feb  
2009

Reference Contract: Dec  
2008

Transaction Date: Feb 08,  
2008

Transaction Date: Feb 08,  
2008

Transaction Date: Feb 08,  
2008

Expected Sale  
Date: 10/31/2008

October 2008						
<						>
Sun	Mon	Tue	Wed	Thu	Fri	Sat
28	29	30	1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	1
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RUN



# Live Cattle & Corn Based Model Captures Impact of High Corn Prices on Light Weight Calf Basis

<b>Model-estimated feeder cattle basis values<sup>1</sup></b>	<b>Feeder Cattle - Based Model<sup>2</sup></b>	<b>Live Cattle &amp; Corn - Based Model<sup>3</sup></b>
Model-estimated feeder cattle basis, \$/cwt	15.29	5.24
Confidence interval for basis, \$/cwt <sup>4</sup>	9.36 to 21.22	-1.21 to 11.70
Expected cash price, \$/cwt	127.84	117.79
Confidence interval for expected cash price, \$/cwt <sup>4</sup>	121.91 to 133.77	111.34 to 124.25
Optimal hedge ratio <sup>5</sup>	1.0631	0.9502
Number of calves hedged per contract <sup>6</sup>	90	80

# Click Back Button To Make Changes

## Example: 750 Lb. Steer in Late March

<i>Feeder Cattle Basis Forecast</i>			Hedge Analysis
State: Iowa	Location: Creston	<b>Expected Sale Date: 3/28/2008</b>	
Sex: Steer	Frame: Lg & Med/Lg	Grade: 1	
<b>Weight:</b> 750 lbs/head	<b>Head:</b> 25		
<b>Feeder Cattle Futures Price:</b> 109.45 \$/cwt	<b>Live Cattle Futures Price:</b> 95.1 \$/cwt	<b>Corn Futures Price:</b> 5.21 \$/bu	
<i>Reference Contract: Apr 2008</i>	<i>Reference Contract: Apr 2008</i>	<i>Reference Contract: May 2008</i>	
<i>Transaction Date: Feb 08, 2008</i>	<i>Transaction Date: Feb 08, 2008</i>	<i>Transaction Date: Feb 08, 2008</i>	
			<b>RUN</b>

February 2008						
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<b>Model-estimated feeder cattle basis values<sup>1</sup></b>	<b>Feeder Cattle - Based Model<sup>2</sup></b>	<b>Live Cattle &amp; Corn - Based Model<sup>3</sup></b>
Model-estimated feeder cattle basis, \$/cwt	<b>0.04</b>	<b>0.06</b>
Confidence interval for basis, \$/cwt <sup>4</sup>	<b>-3.39 to 3.46</b>	<b>-3.50 to 3.62</b>
Expected cash price, \$/cwt	<b>109.49</b>	<b>109.51</b>
Confidence interval for expected cash price, \$/cwt <sup>4</sup>	<b>106.06 to 112.91</b>	<b>105.95 to 113.07</b>
Optimal hedge ratio <sup>5</sup>	<b>0.9285</b>	<b>0.5561</b>
Number of calves hedged per contract <sup>6</sup>	<b>72</b>	<b>96</b>

# Example Sensitivity Table: Basis to Live Cattle and Corn Futures

		Feeder Cattle Model									
C O R N  \$/Bu	4.40	0.65	0.51	0.37	0.23	0.16	-0.04	-0.18	-0.32	-0.46	
	4.60	0.62	0.48	0.34	0.20	0.13	-0.07	-0.21	-0.35	-0.49	
	4.80	0.59	0.45	0.31	0.17	0.10	-0.10	-0.24	-0.38	-0.52	
	5.00	0.56	0.42	0.28	0.14	0.07	-0.13	-0.27	-0.41	-0.55	
	5.21	0.53	0.39	0.25	0.11	0.04	-0.17	-0.31	-0.44	-0.58	
	5.40	0.50	0.36	0.22	0.08	0.01	-0.19	-0.33	-0.47	-0.61	
	5.60	0.47	0.33	0.19	0.05	-0.02	-0.23	-0.36	-0.50	-0.64	
	5.80	0.44	0.30	0.16	0.02	-0.05	-0.26	-0.39	-0.53	-0.67	
	6.00	0.41	0.27	0.13	-0.01	-0.08	-0.29	-0.42	-0.56	-0.70	
		88.00	90.00	92.00	94.00	95.10	98.00	100.00	102.00	104.00	
		Live Cattle \$/Cwt									

# Expected Selling Price when hedging

# Hedge Analysis

## Feeder Cattle Basis Forecast

State: Iowa

Location: Creston

Expected Sale  
Date: 3/28/2008

Sex: Steer

Frame: Lg & Med/Lg

Grade: 1

Weight:

750 lbs/head

Head:

25

Feeder Cattle Futures Price:

109.45 \$/cwt

Live Cattle Futures Price:

95.1 \$/cwt

Corn Futures Price:

5.21 \$/bu

Reference Contract: Apr  
2008

Transaction Date: Feb 08,  
2008

Reference Contract: Apr  
2008

Transaction Date: Feb 08,  
2008

Reference Contract: May  
2008

Transaction Date: Feb 08,  
2008

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2	3	4	5	6	7	8

Feeder Contracts: 1

(Number of feeder cattle contracts for 100% hedge  
position: 1.00)

Live Contracts: 1

(Number of live cattle contracts for 100% hedge position:  
1.00)

RUN

# Hedge Analysis for 25 Steers @ 750 Lb.

Expected Marketing Date: March 12, 2008

<b>Feeder Cattle - Based Model</b>				
<b>Feeder Cattle Futures Market</b>				
<b>Expected Price Realization, \$/cwt</b>				
<b>Feeder Cattle Futures at Sale Date</b>	<b>Basis</b>	<b>Sale Price</b>	<b>Gain On Hedge</b>	<b>Expected Realized Cash Price</b>
101.00	1.56	102.56	22.53	125.09
103.00	1.18	104.18	17.20	121.38
105.00	0.80	105.80	11.87	117.66
107.00	0.42	107.42	6.53	113.95
109.00	0.04	109.04	1.20	110.24
111.00	-0.35	110.65	-4.13	106.52
113.00	-0.73	112.27	-9.47	102.81
115.00	-1.11	113.89	-14.80	99.09

# BeefBasis.com

- ✓ **Provides feeder cattle basis forecasts**
  - **Better forecasts than historical averages**
  - **Incorporate current market conditions**
  - **Forecasts for 15 states are available**  
AL, AR, FL, IA, KS, KY, MO, MT, NE, ND, OK, SD, TN, TX, WY
- ✓ **Provides Hedge Analysis**
- ✓ **Data available for downloading into Excel**



# BeefBasis.com

## ✓ Future?

- Dynamic website
- Additional 10 states by early 2009
- Fed cattle

## ✓ Provide input/comments on web

# Thank You!

[www.BeefBasis.com](http://www.BeefBasis.com)