

Ethanol and Beef Production

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Presentation at agribenchmark Beef Conference

Vienna, Austria

June 22, 2011

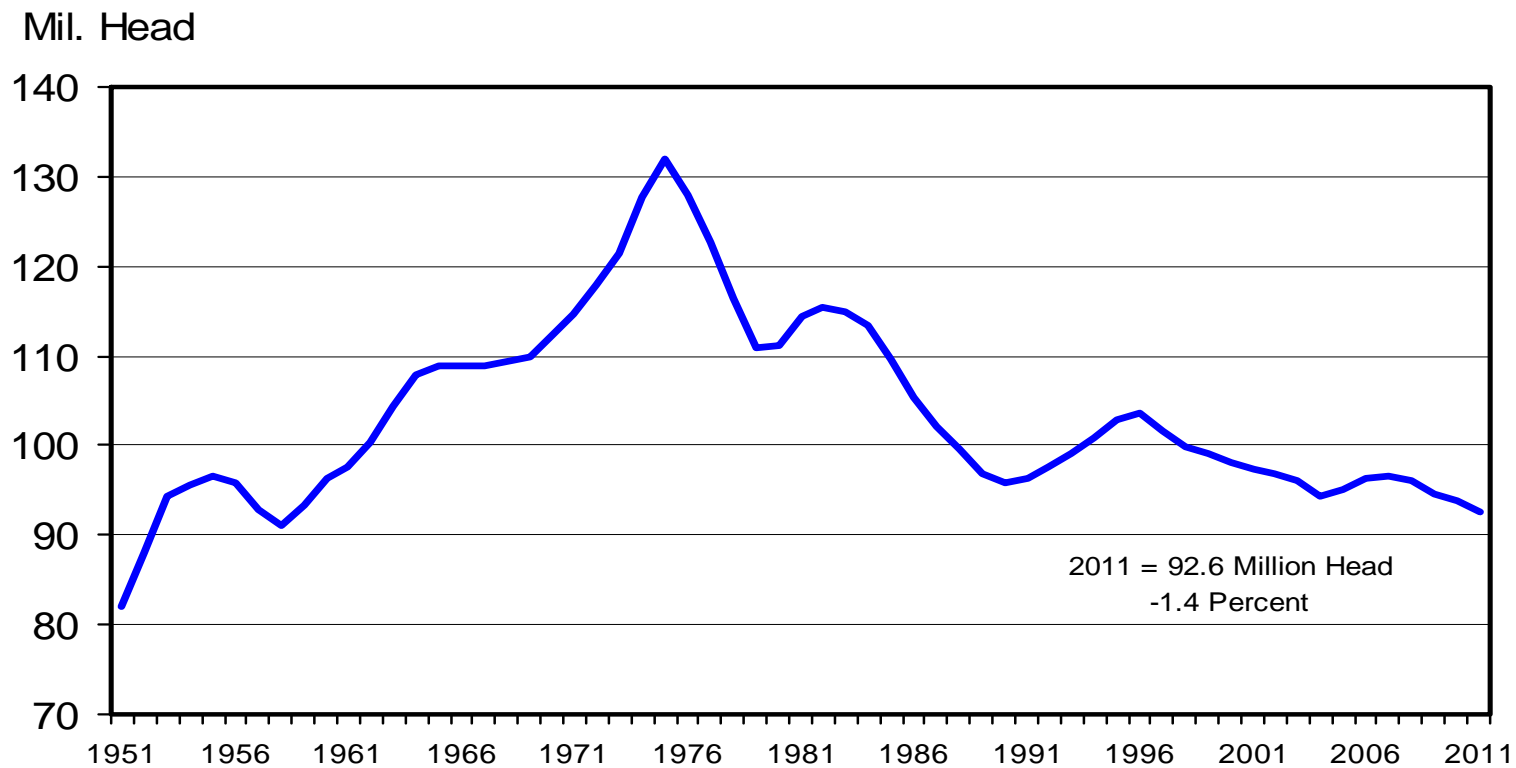
Outline of Presentation

- ✓ U.S. Beef Industry
- ✓ Relative Profitability of Livestock Farms
- ✓ Ethanol and Corn Prices
- ✓ Impact of Ethanol on U.S. Beef Industry
 - ✓ Cow-Calf
 - ✓ Backgrounding
 - ✓ Finishing

U.S. Beef Industry

JANUARY 1 TOTAL CATTLE INVENTORY

U.S., Annual

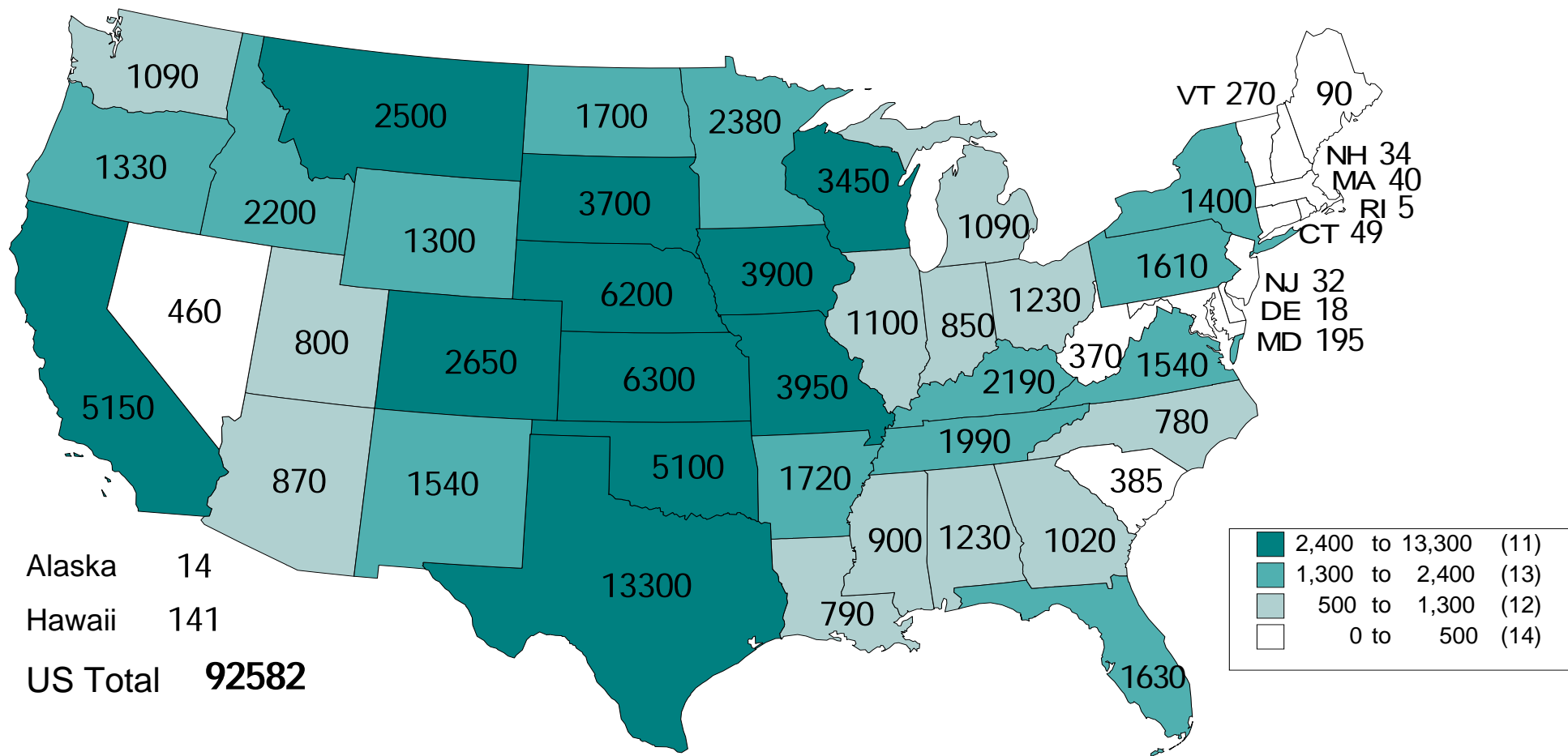


Livestock Marketing Information Center

Data Source: USDA-NASS

TOTAL CATTLE NUMBERS JANUARY 1, 2011

(1000 Head)



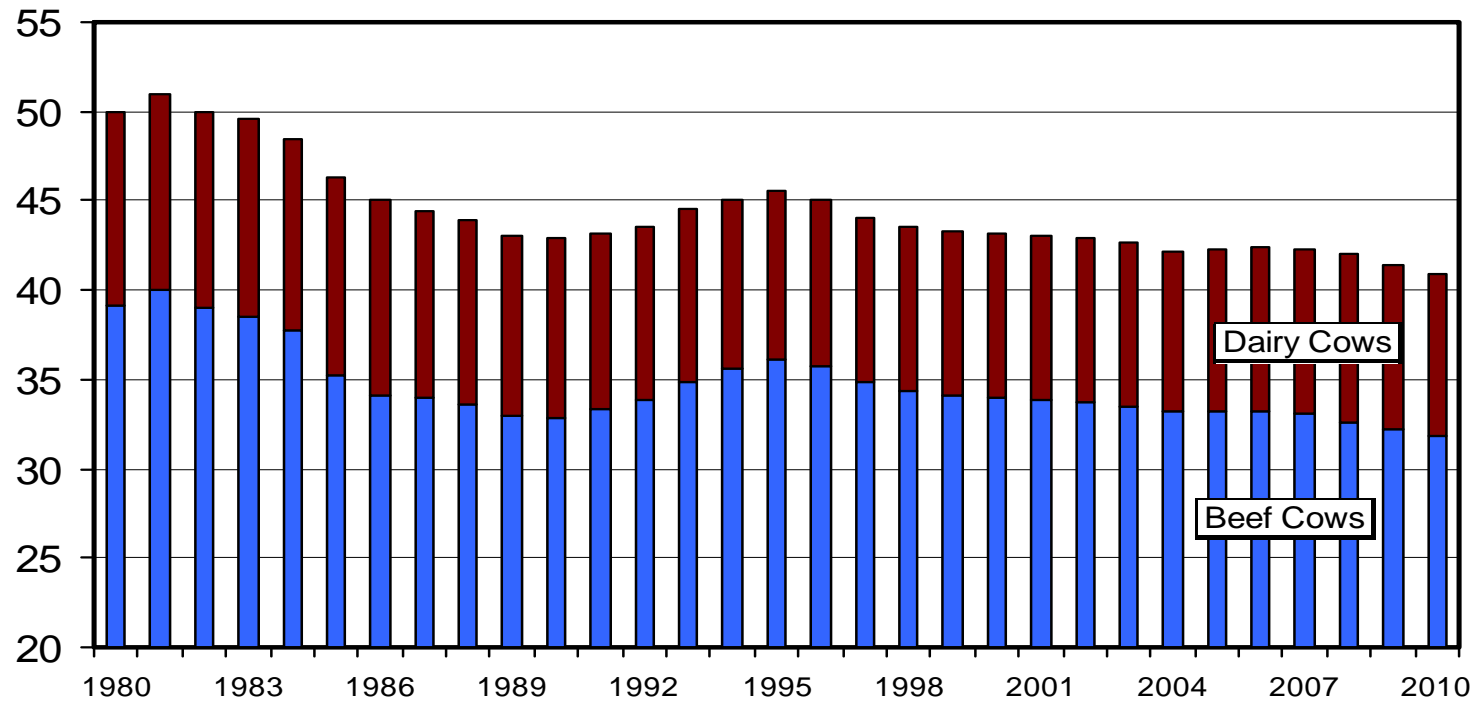
Livestock Marketing Information Center

Data Source: USDA/NASS

JULY 1 COW INVENTORY

U.S., Annual

Mil. Head



Livestock Marketing Information Center

Data Source: USDA-NASS

Concentration of U.S. animal agriculture in 2009
 (production from approximately 10% of operations)

| | Size of operation (hd) | Percent of operations | % of I, M, or P* |
|----------------------------------|-----------------------------------|----------------------------------|-------------------------|
| Beef cows | 100+ | 9.7% | 54.6% (I) |
| 1000+ head Feedlots** | 24,000+ | 8.5% | 61.6% (M) |
| Dairy | 200+ | 11.1% | 72.0% (P) |
| Swine | 2,000+ | 11.5% | 86.0% (I) |

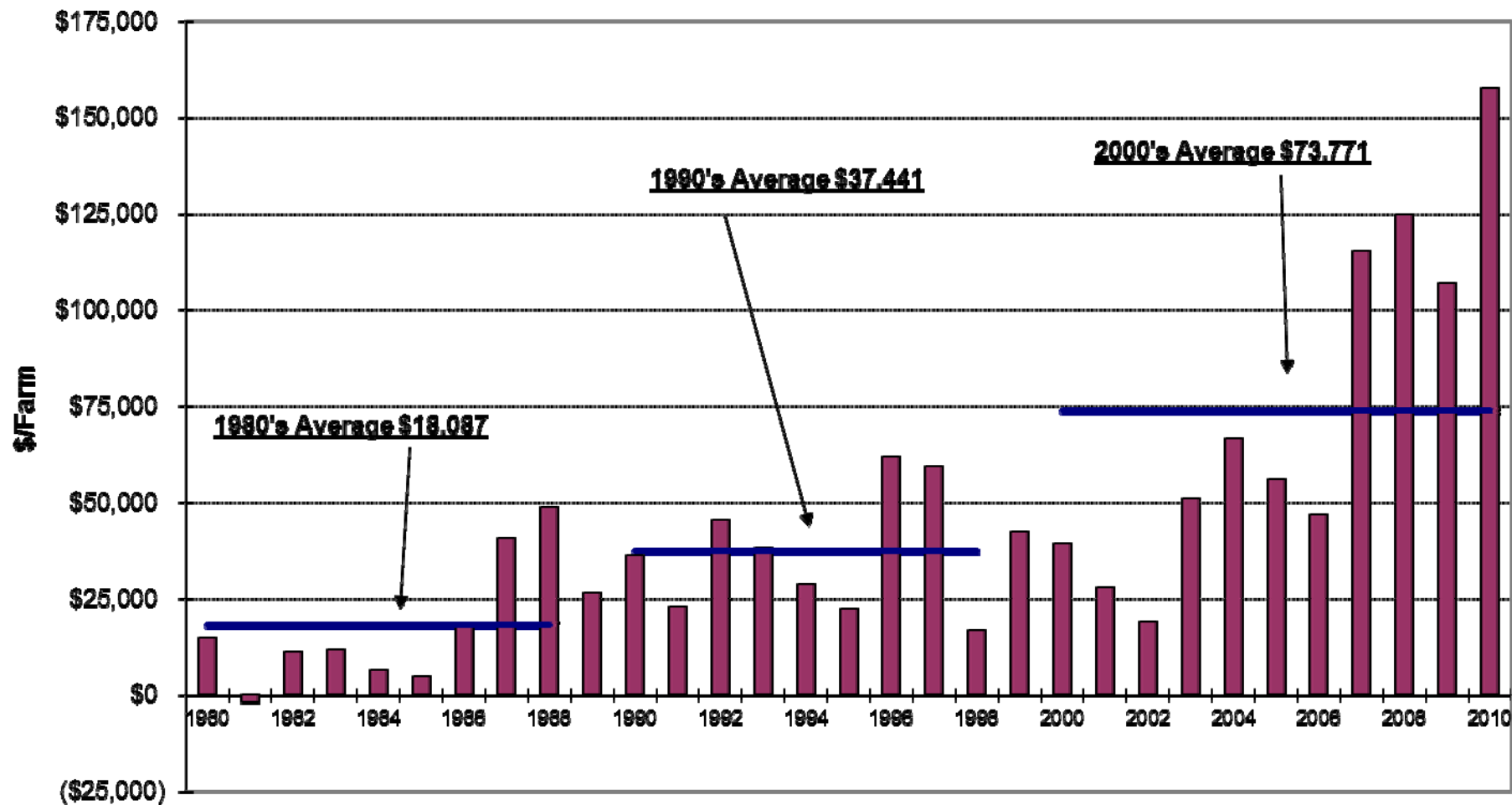
* I = Inventory, M = Marketings, P = Production

** Feedlots with 1000+ hd represent 2.6% of all feedlots and account for 84.7% of marketings

Source: USDA NASS and K-State

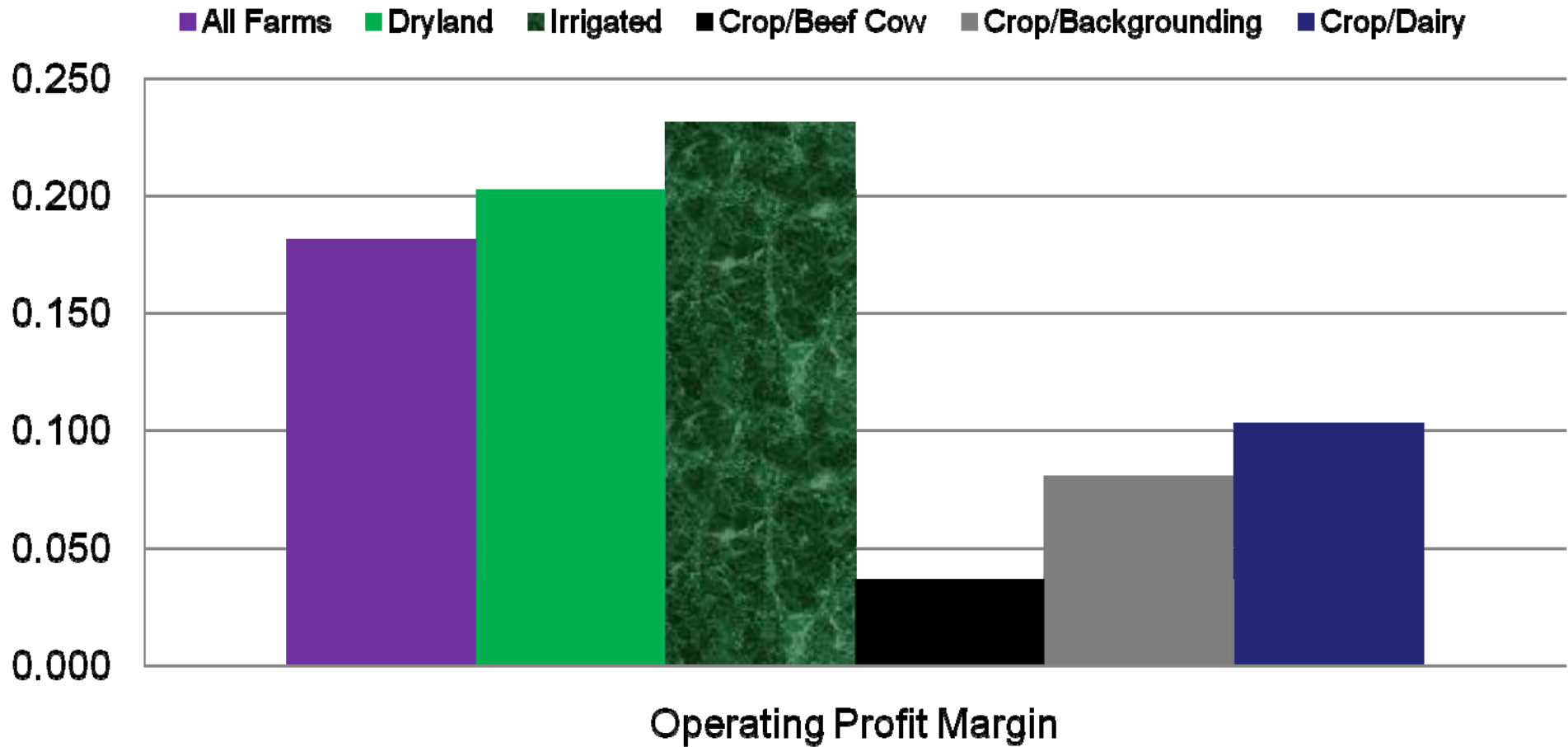
Relative Profitability
Kansas Farm Management
Association (KFMA) Farms

Kansas Farm Management Association Accrual Net Farm Income, 1980-2010



Profit Margin by Farm Type

KFMA, 2006 to 2010 Averages



Ethanol and Corn Prices

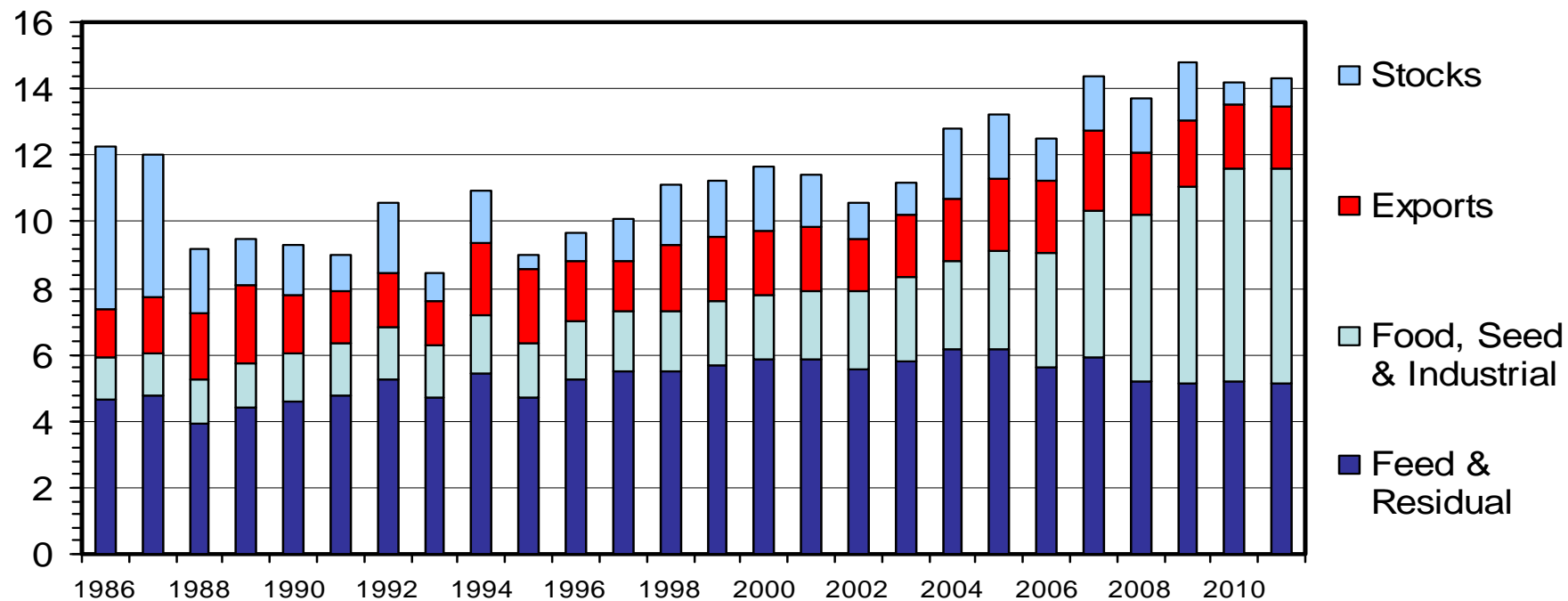
Ethanol Production

- Renewable Fuel Standard
 - Use of biofuels of 36 billion gallons in 2022, of which 15 billion can come from corn
- One bushel of corn (56 pounds) yields:
 - 2.6 to 2.8 gallons of ethanol and
 - 17.5 pounds of dried distiller's grains with solubles containing 10 percent moisture, or
 - 11 to 13 pounds of corn gluten feed, 2.6 pounds of corn gluten meal, and 1.6 pounds of corn oil
 - Among livestock species, animals with a rumen compartment in their stomachs are best able to utilize co-products in feed rations.

U.S. CORN DISAPPEARANCE AND STOCKS

Crop Year

Bil. Bushels



Livestock Marketing Information Center

Data Source: USDA-NASS, Compiled & Analysis by LMIC

G-NP-12
05/11/11

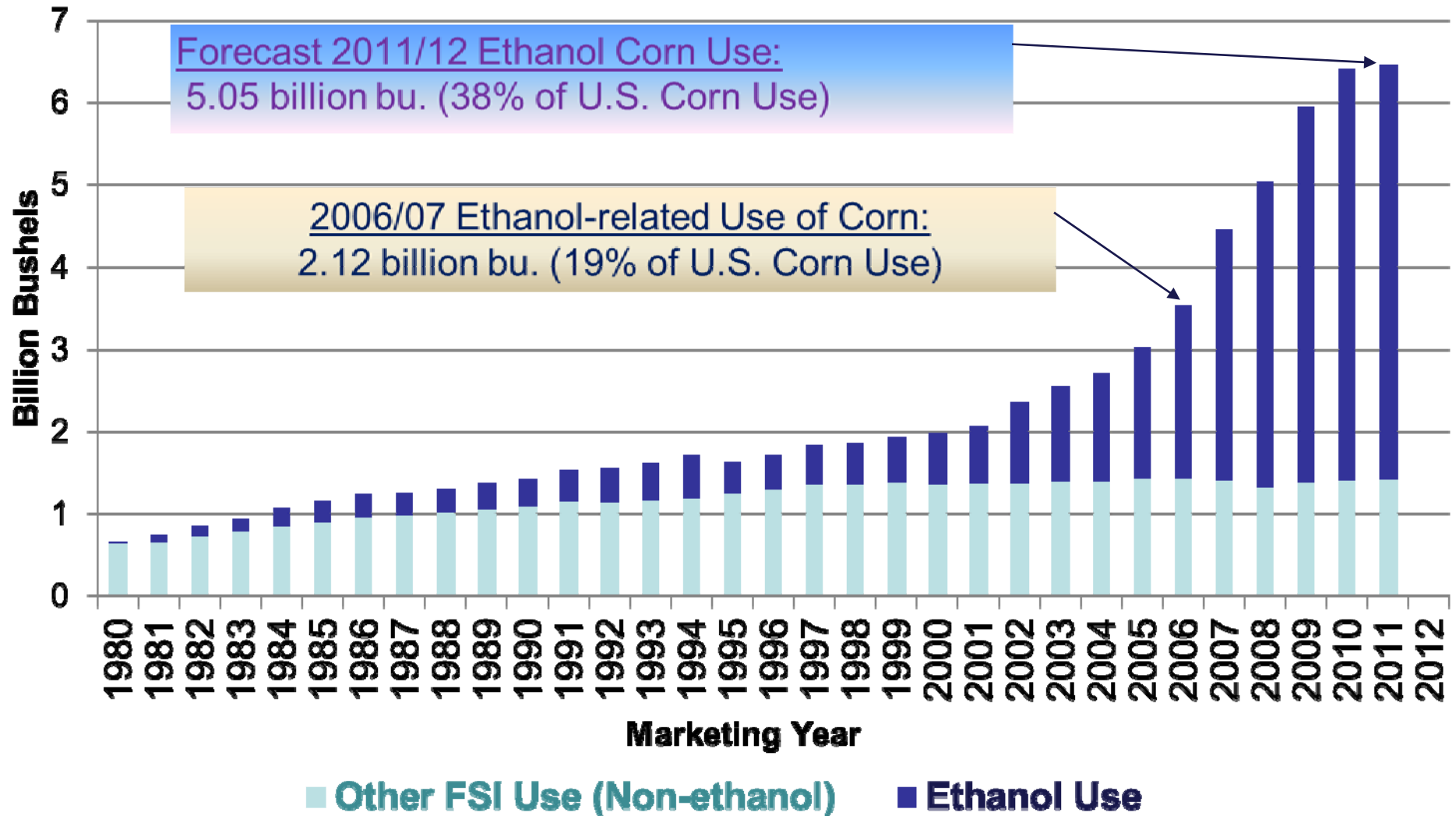
U.S. Corn Supply-Demand Balance Sheet:

MY 2007/08 through MY 2011/12 (June 9, 2011 USDA WASDE Report)

| Item | 2007/08 | 2008/09 | 2009/10 | 2010/11 | 2011/12 |
|---|-----------------|---------|---------|---|---|
| Planted Area (million acres) | 93.5 | 86.0 | 86.4 | 88.2 | 90.7 |
| Harvested Area (million acres) | 86.5 | 78.6 | 79.5 | 81.4 | 83.2 |
| Yield per harvested acre (bushels/acre) | 150.7 | 153.9 | 164.7 | 152.8 | 158.7 |
| | million bushels | | | | |
| Beginning Stocks | 1,304 | 1,624 | 1,673 | 1,708 | 730 |
| Production | 13,038 | 12,092 | 13,092 | 12,447 | 13,200 |
| Imports | 20 | 14 | 8 | 25 | 20 |
| Total Supply | 14,362 | 13,729 | 14,774 | 14,180 | 13,950 |
| Ethanol for fuel | 3,049 | 3,709 | 4,568 | 5,000 | 5,050 |
| Non-ethanol Food, Seed & Industrial | 1,393 | 1,316 | 1,371 | 1,400 | 1,405 |
| Exports | 2,437 | 1,849 | 1,987 | 1,900 | 1,800 |
| Feed & Residual | 5,858 | 5,182 | 5,140 | 5,150 | 5,000 |
| Total Use | 12,737 | 12,056 | 13,066 | 13,450 | 13,255 |
| Ending Stocks | 1,624 | 1,673 | 1,708 | 730 | 695 |
| % Ending Stocks-to-Total Use | 12.8% | 13.9% | 13.1% | 5.4% | 5.2% |
| U.S. Average Farm Price (\$/bushel) | \$4.20 | \$4.06 | \$3.55 | \$5.20-\$5.50 <i>Midpoint = \$5.35</i> | \$6.00-\$7.00 <i>Midpoint = \$6.50</i> |

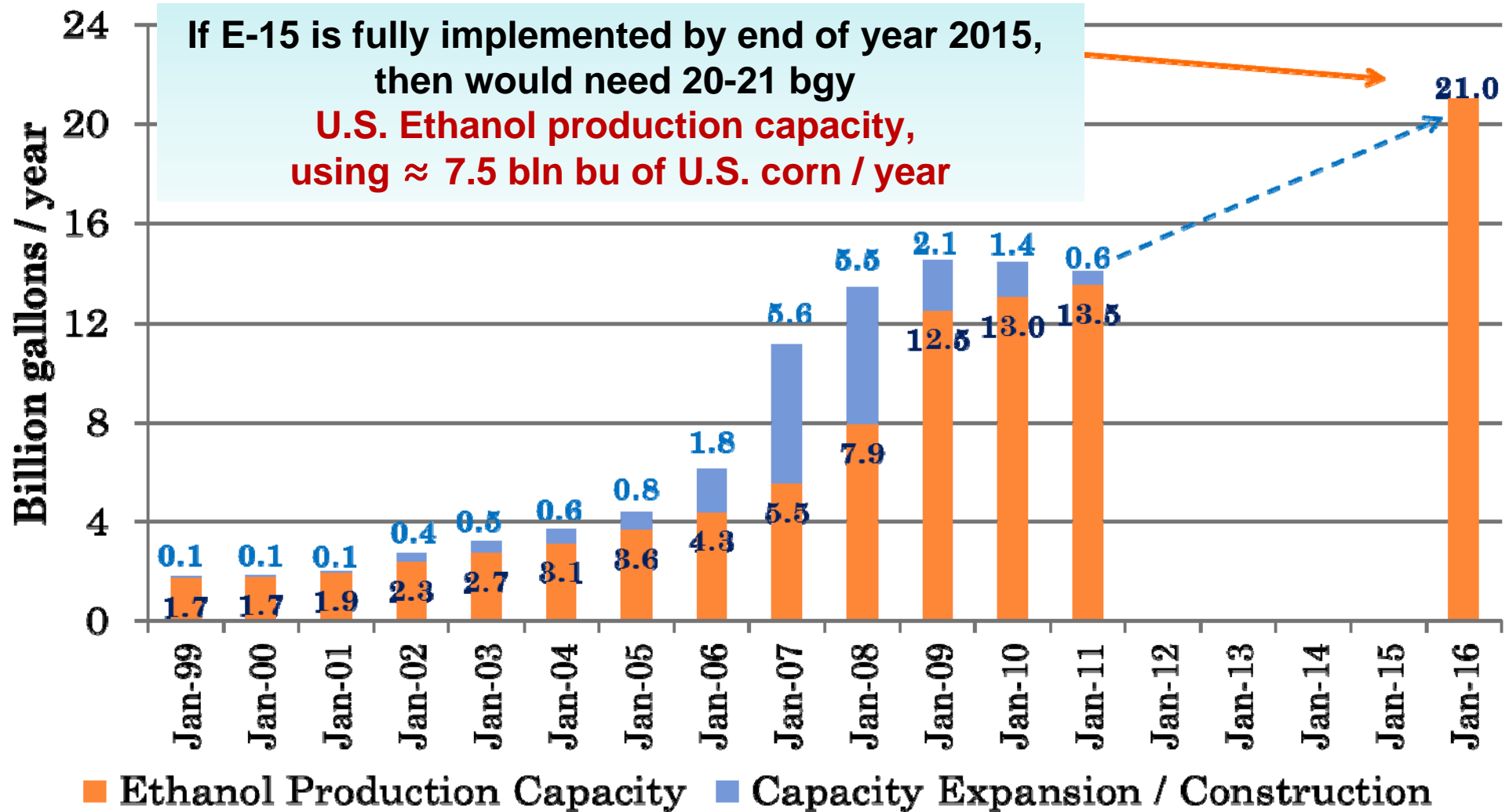
U.S. Corn Ethanol - FSI Use

May 11, 2011 USDA WASDE Report



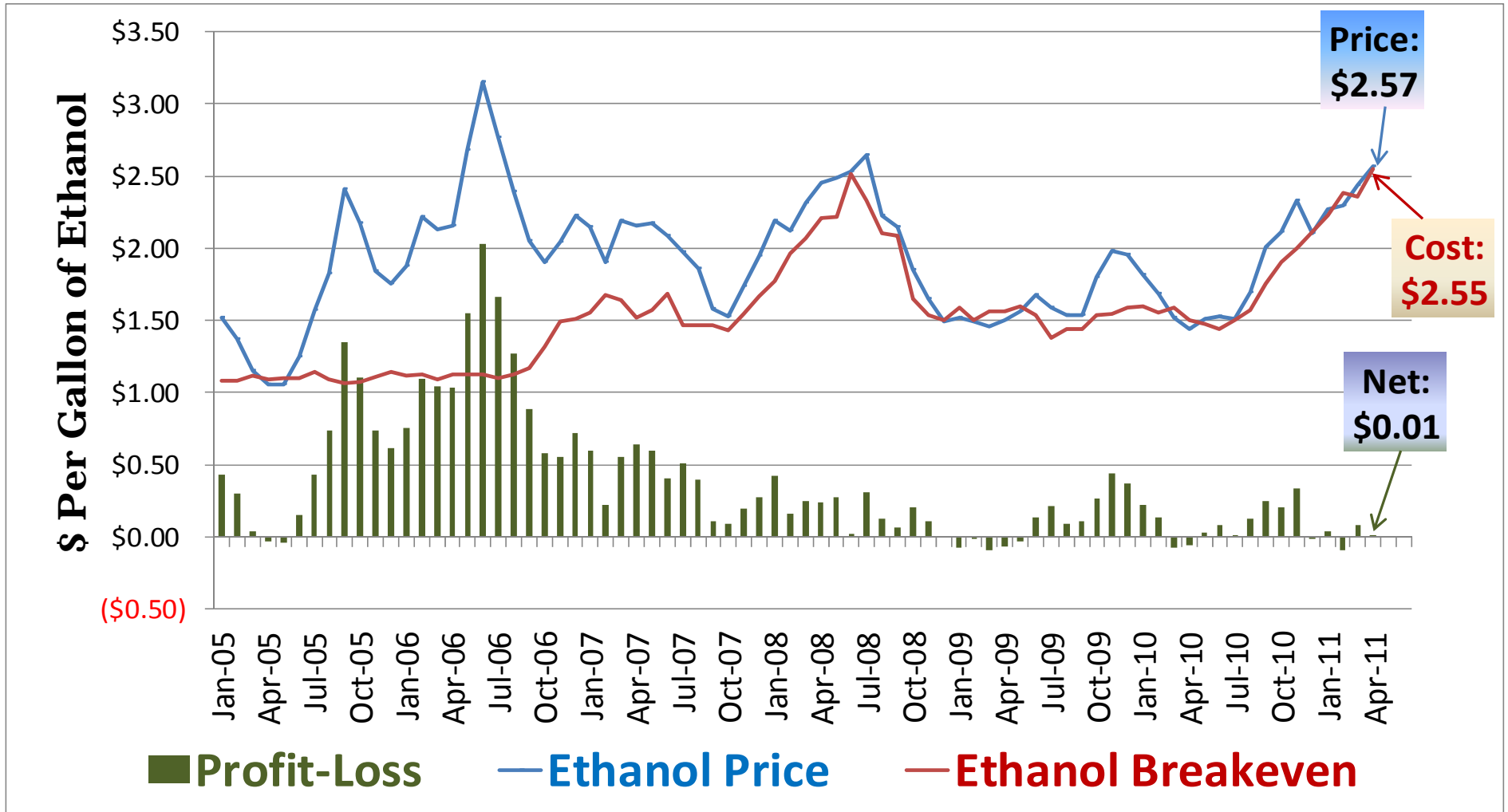
U.S. Ethanol Industry Capacity

Source: Renewable Fuels Association

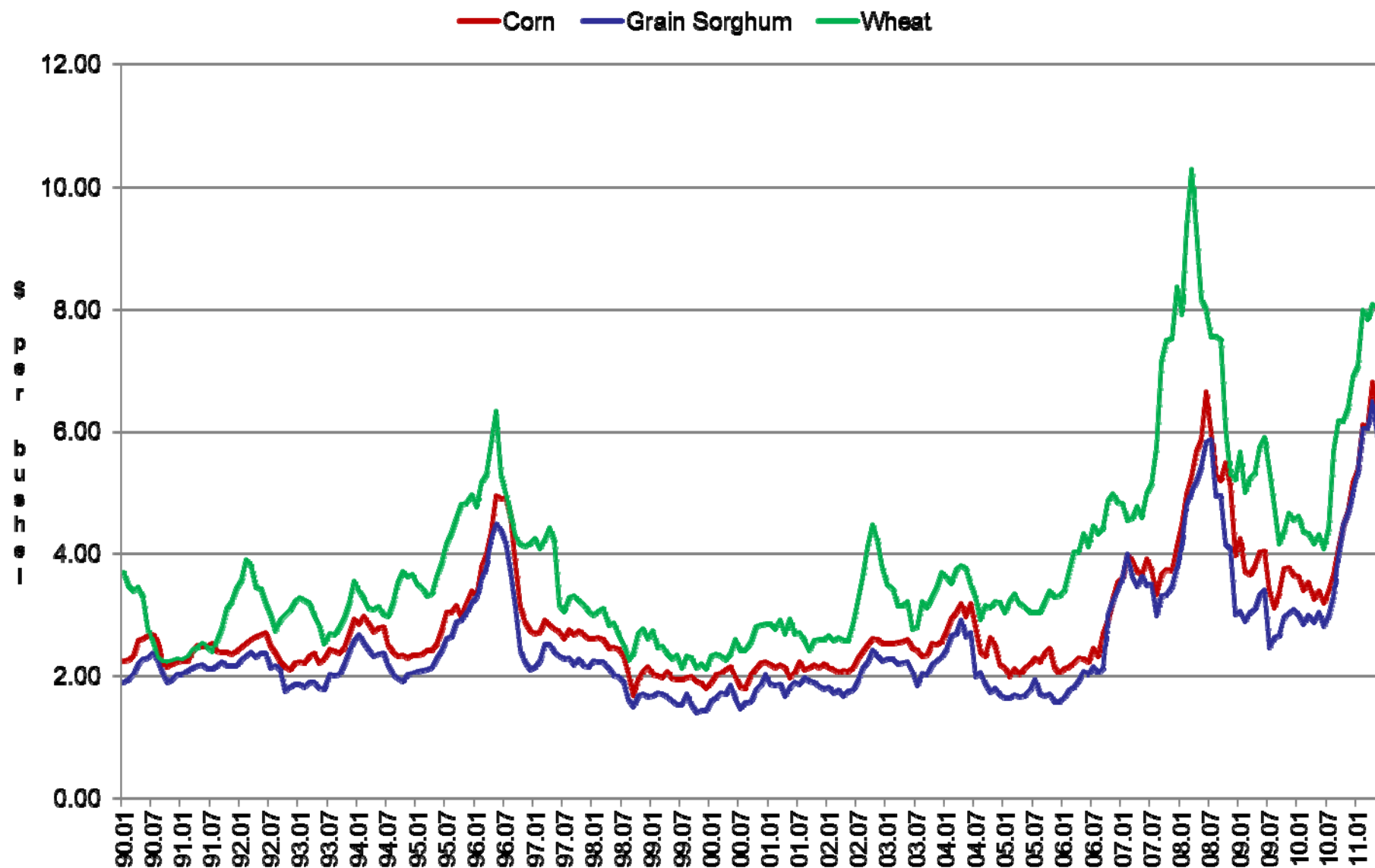


Ethanol Price, Cost & Profits

ISU Ethanol Plant Model (January 2005 – April 2011)



Historical Feed Grain Prices, Kansas

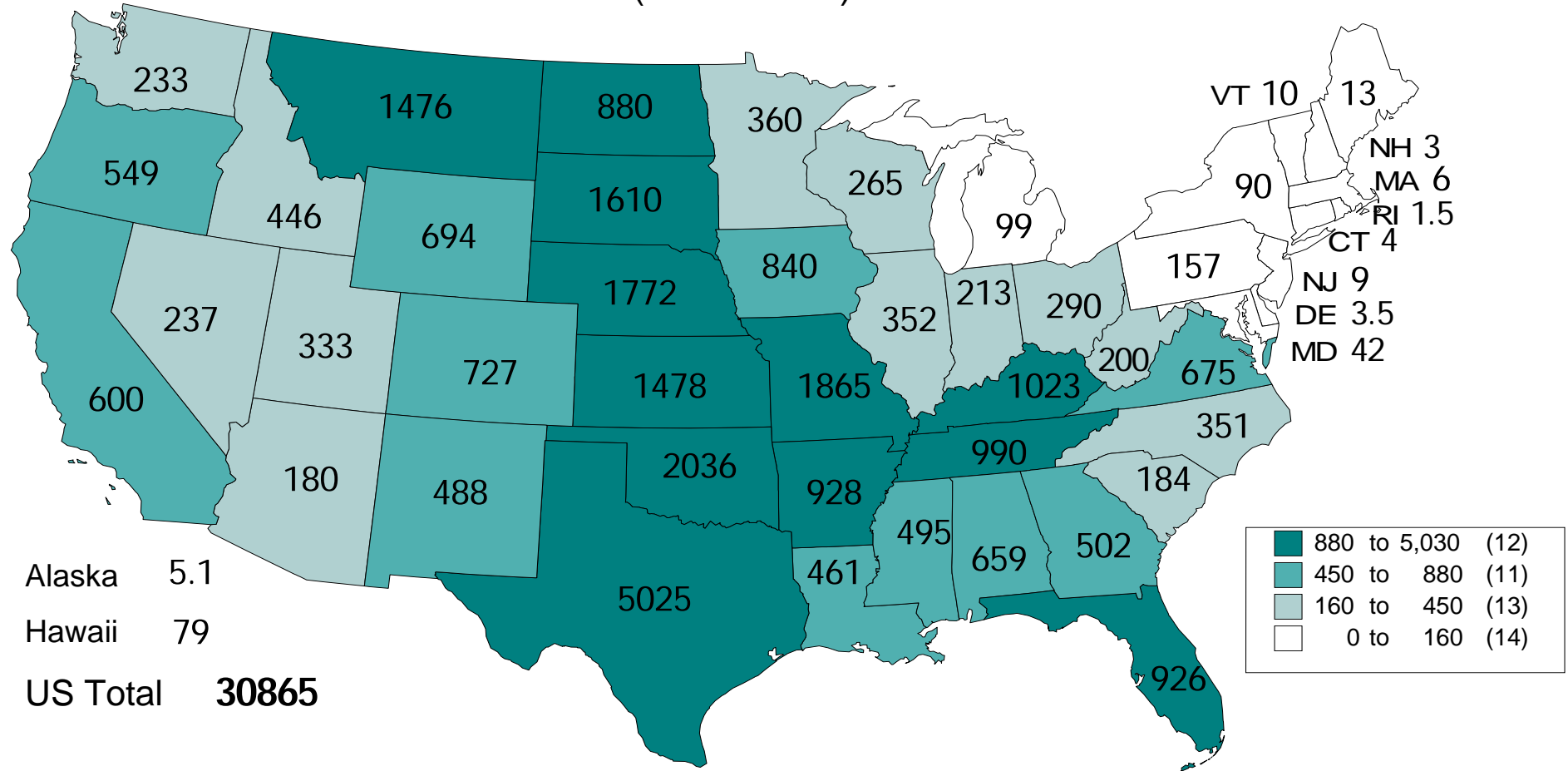


Cow-Calf Sector

BEEF COWS THAT HAVE CALVED

JANUARY 1, 2011

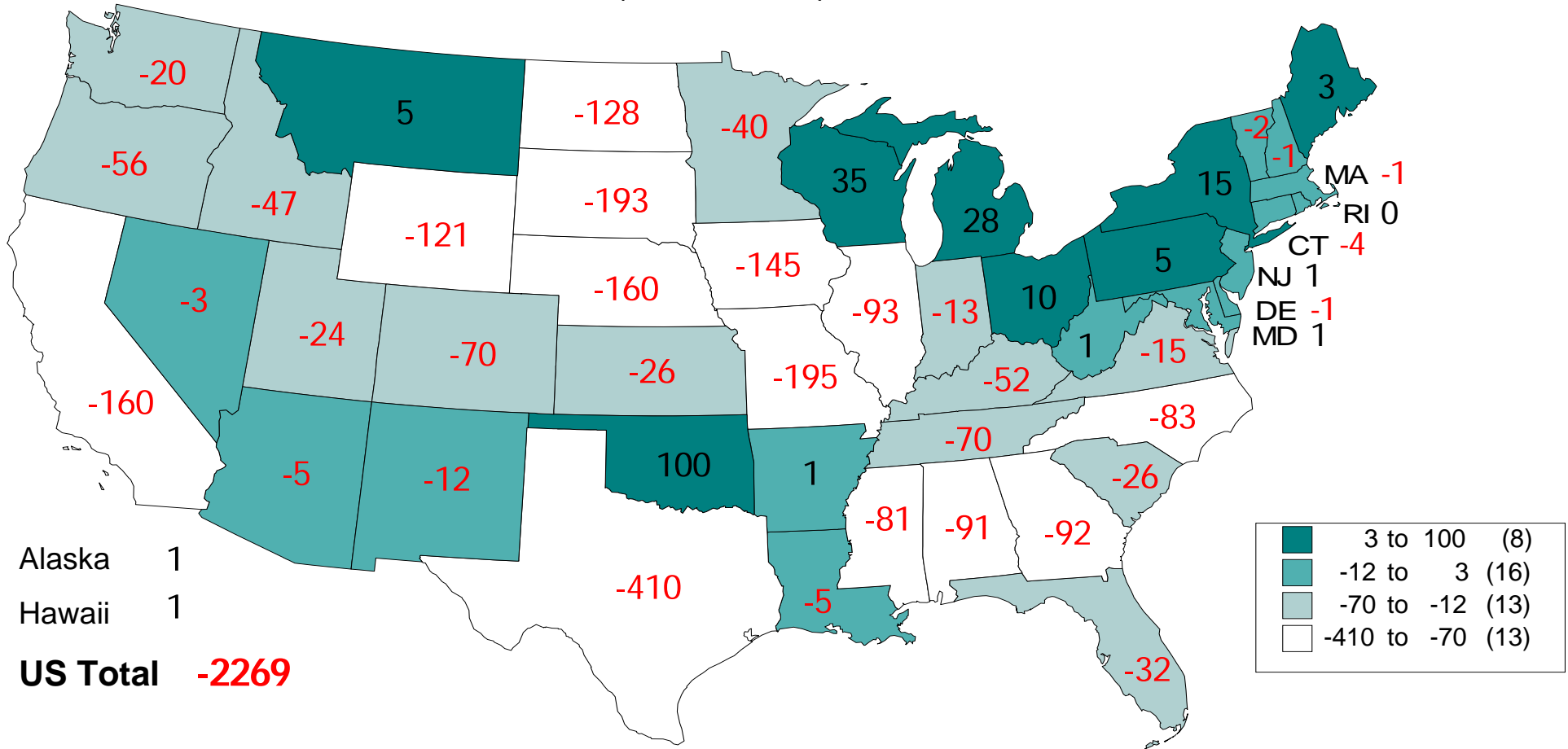
(1000 Head)



Livestock Marketing Information Center

Data Source: USDA/NASS

CHANGE IN BEEF COW NUMBERS JANUARY 1, 2002 TO JANUARY 1, 2011 (1000 Head)



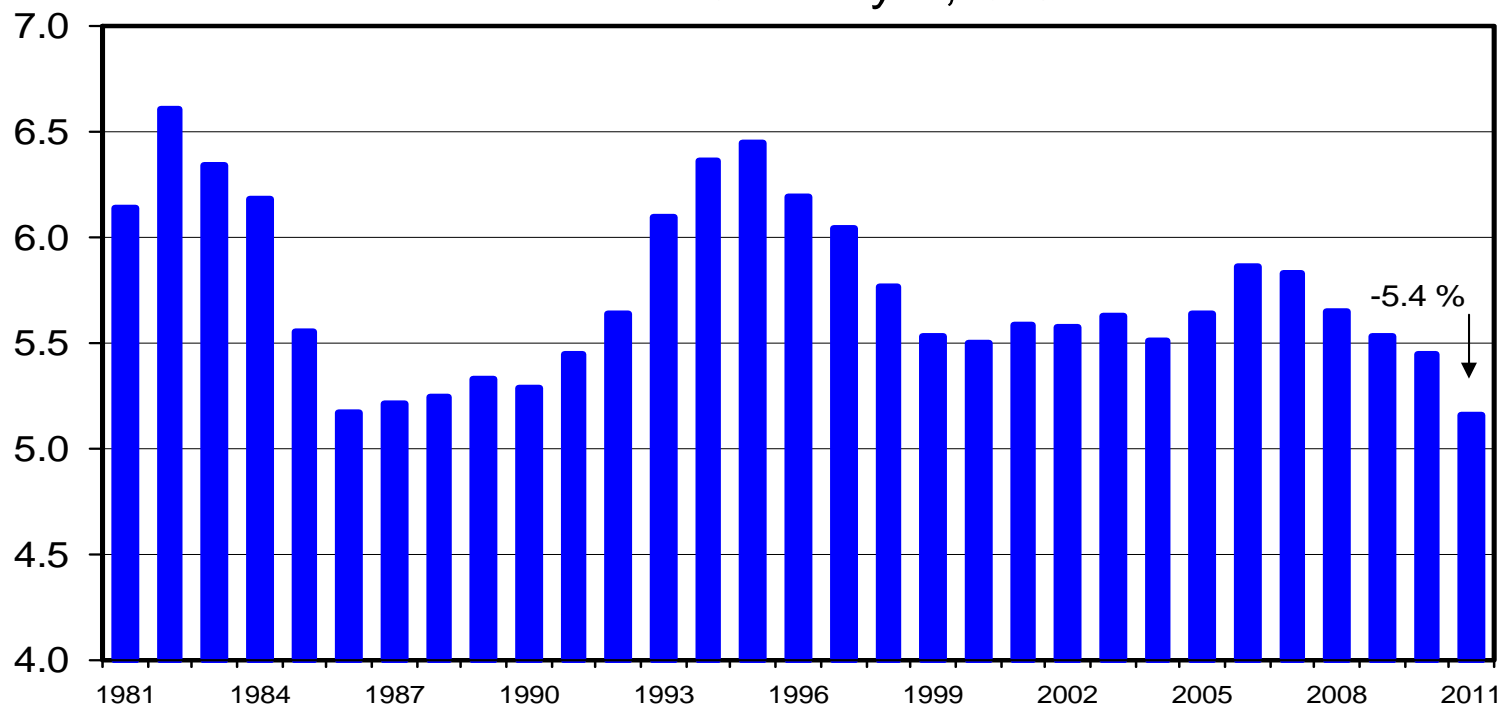
Livestock Marketing Information Center

Data Source: USDA/NASS

HEIFERS HELD AS BEEF COW REPLACEMENTS

Mil. Head

January 1, U.S.

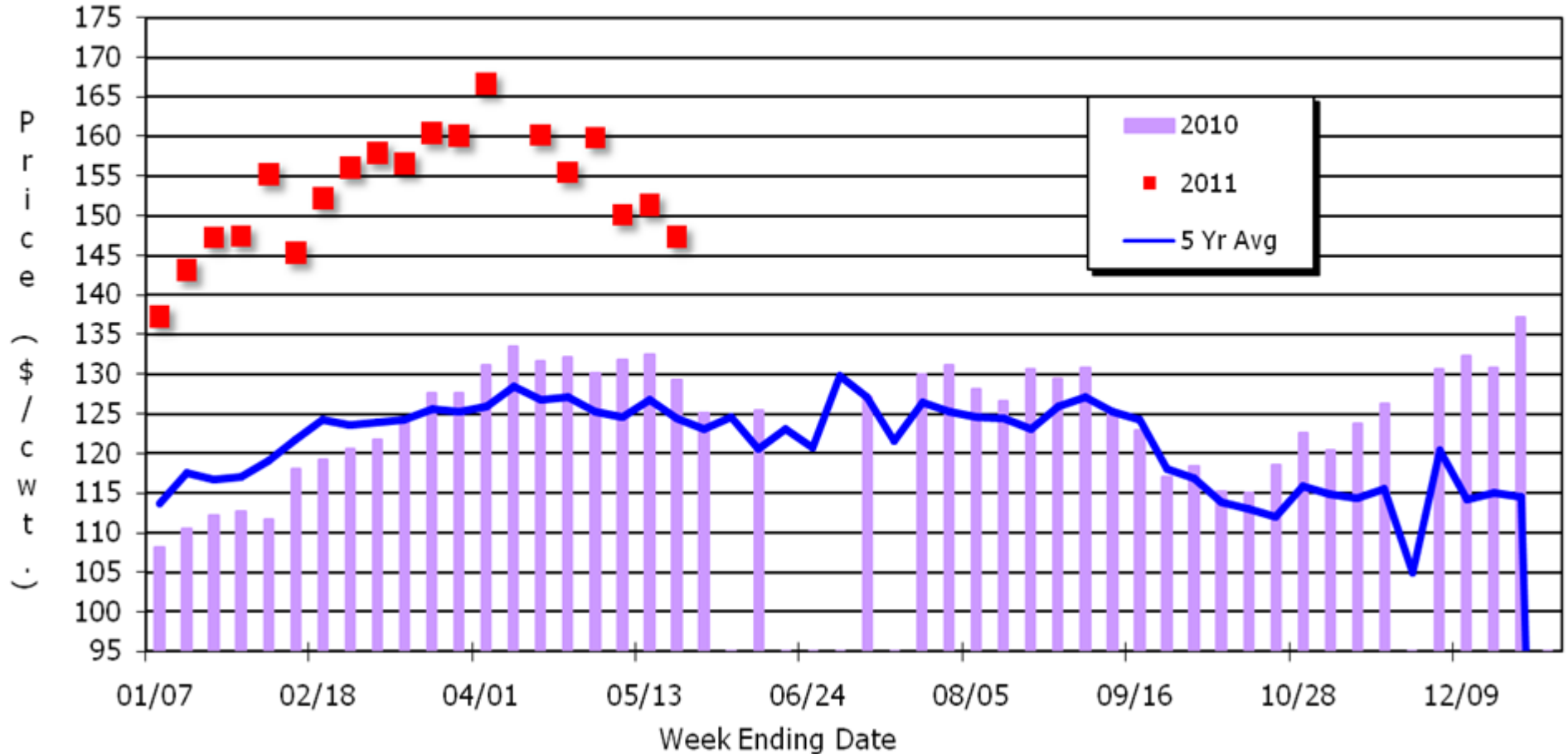


Livestock Marketing Information Center

Data Source: USDA-NASS

Kansas Weekly 500-600 Lb. Steer Prices

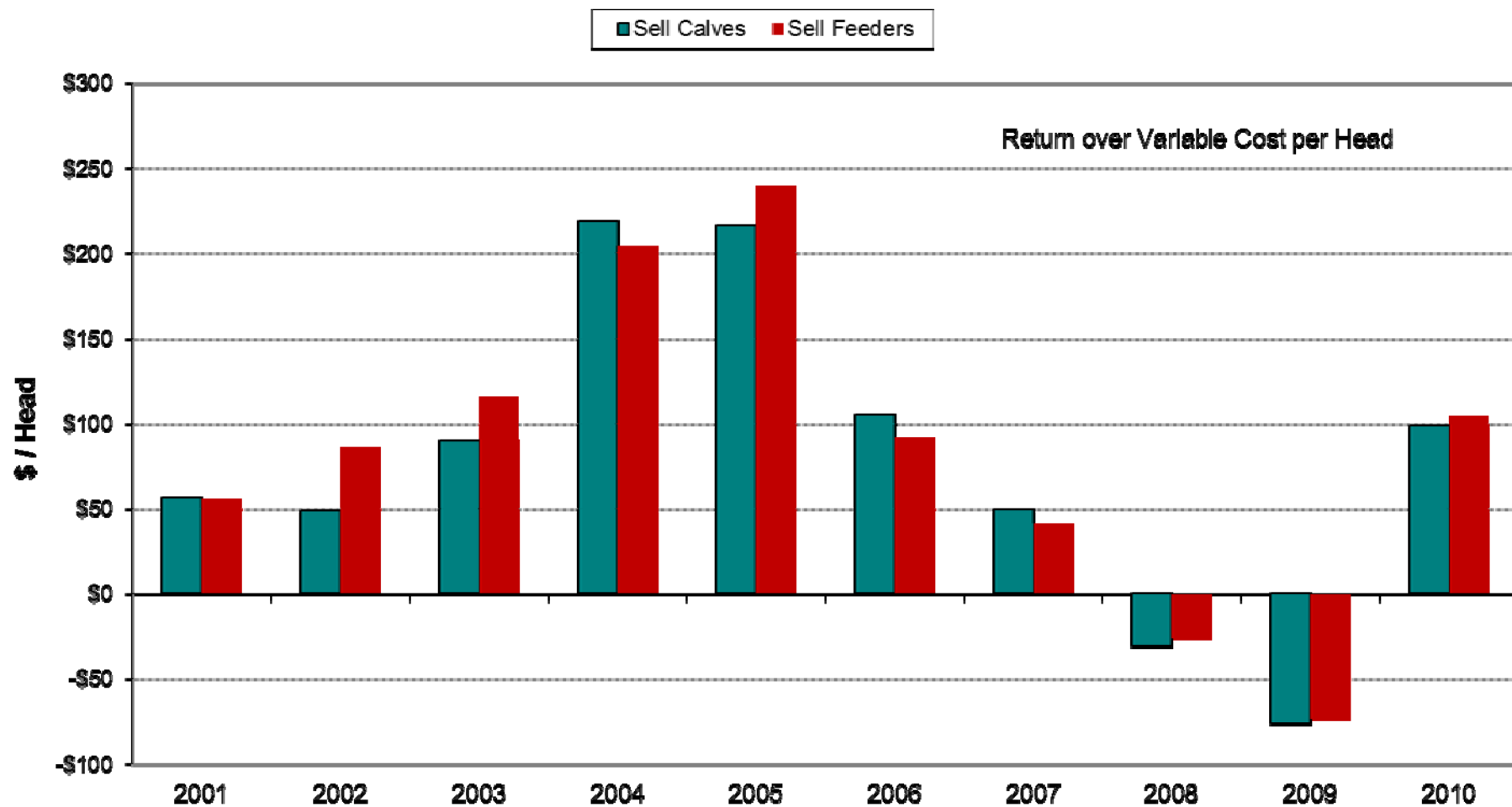
Weighted Average from Dodge City, Pratt, & Salina



Source: USDA & K-State Ag. Economics

KSU Dept. of Ag Econ
www.agmanager.info

Kansas Farm Management Association Beef Cowherd - Sell Calves; Sell Feeders

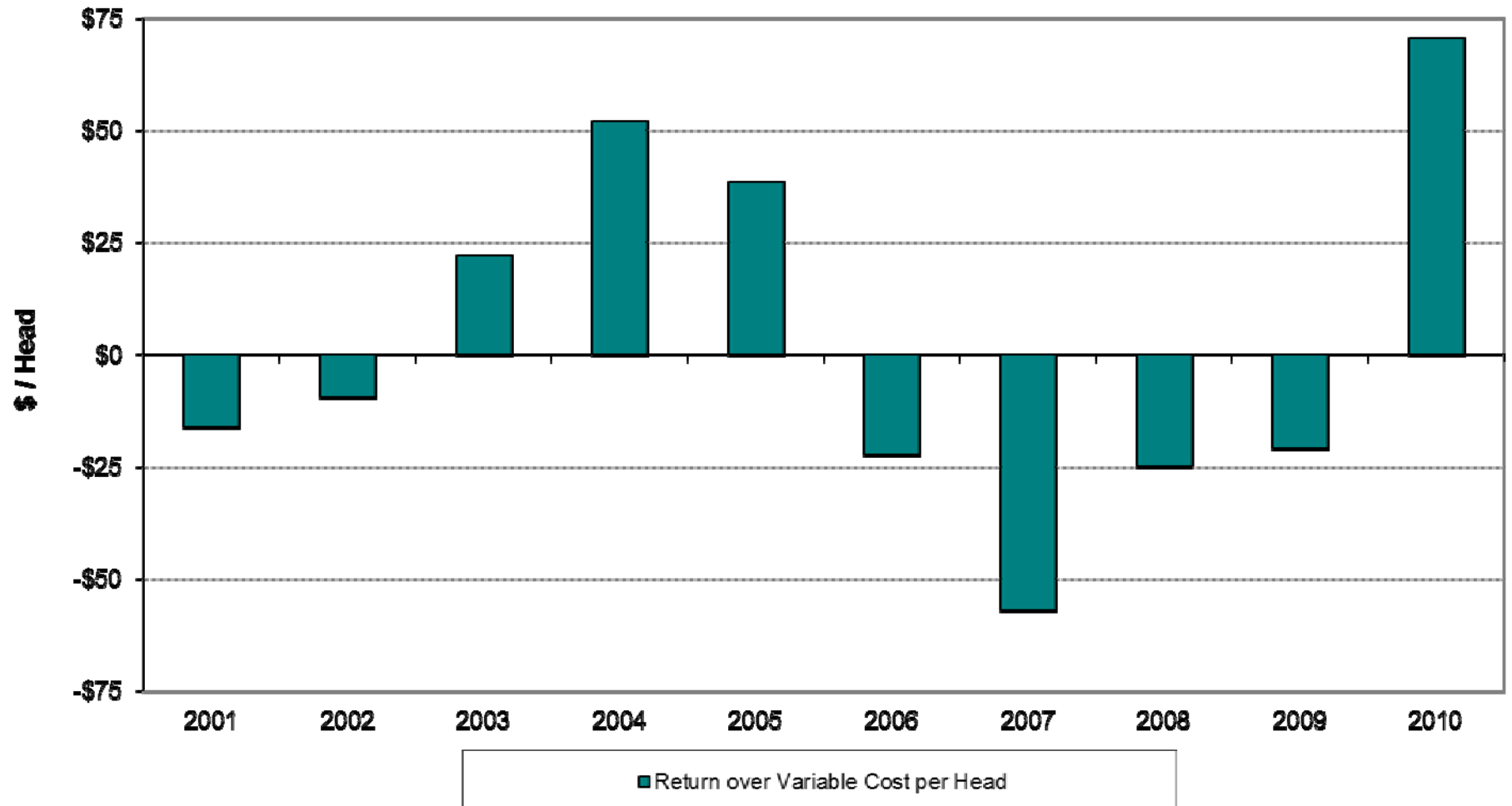


Stocker and Backgrounding Sector

Stocker and Backgrounding

- Stocker
 - Summer Grazing
 - 75 to 150 days
 - Winter Grazing
 - Wheat Pasture
- Backgrounding
 - Forage based rations
 - Days fed varies significantly among farms

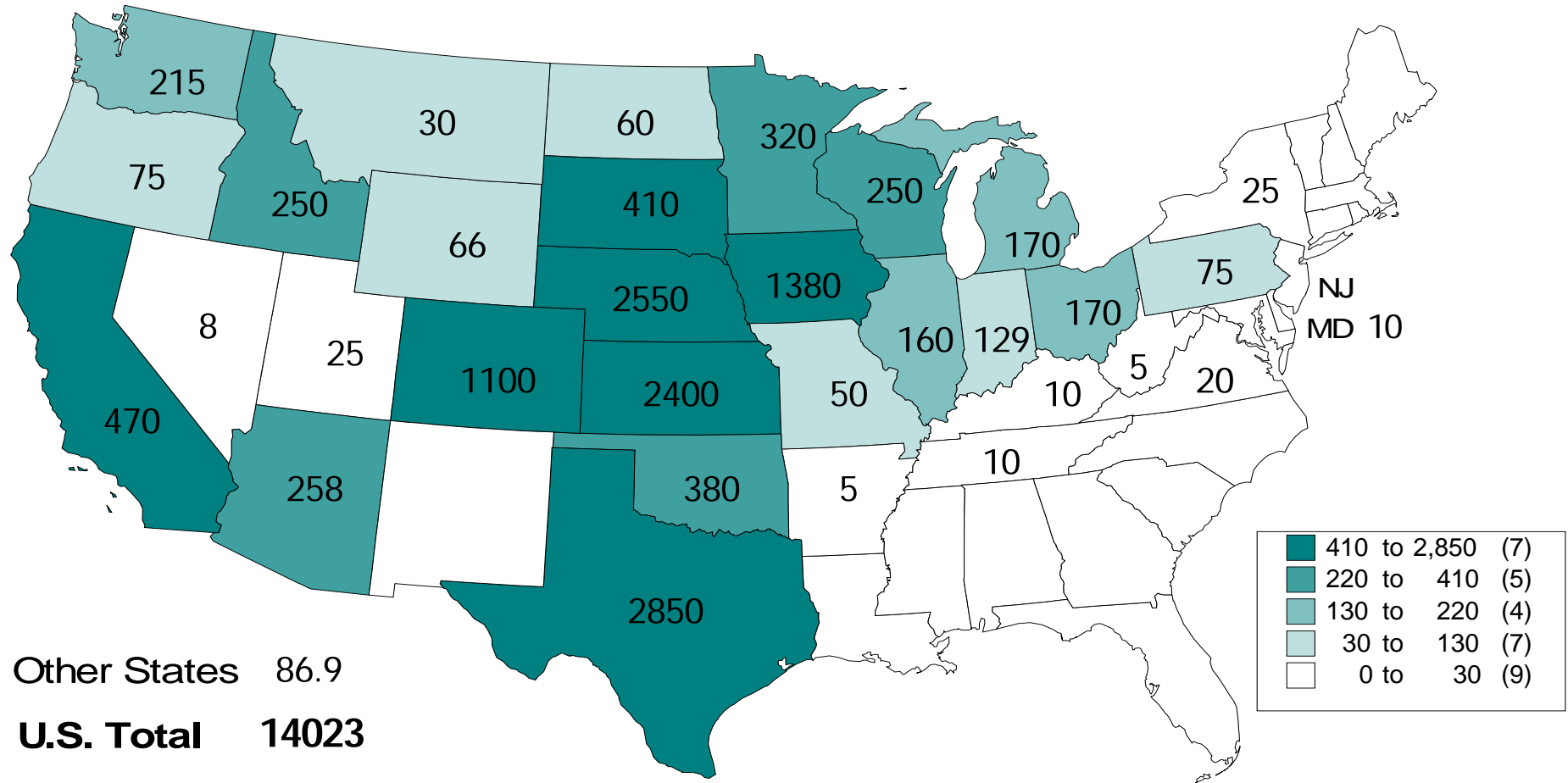
Kansas Farm Management Association Beef Backgrounding



Beef Finishing Sector

CATTLE ON FEED JANUARY 1, 2011

(1000 Head)

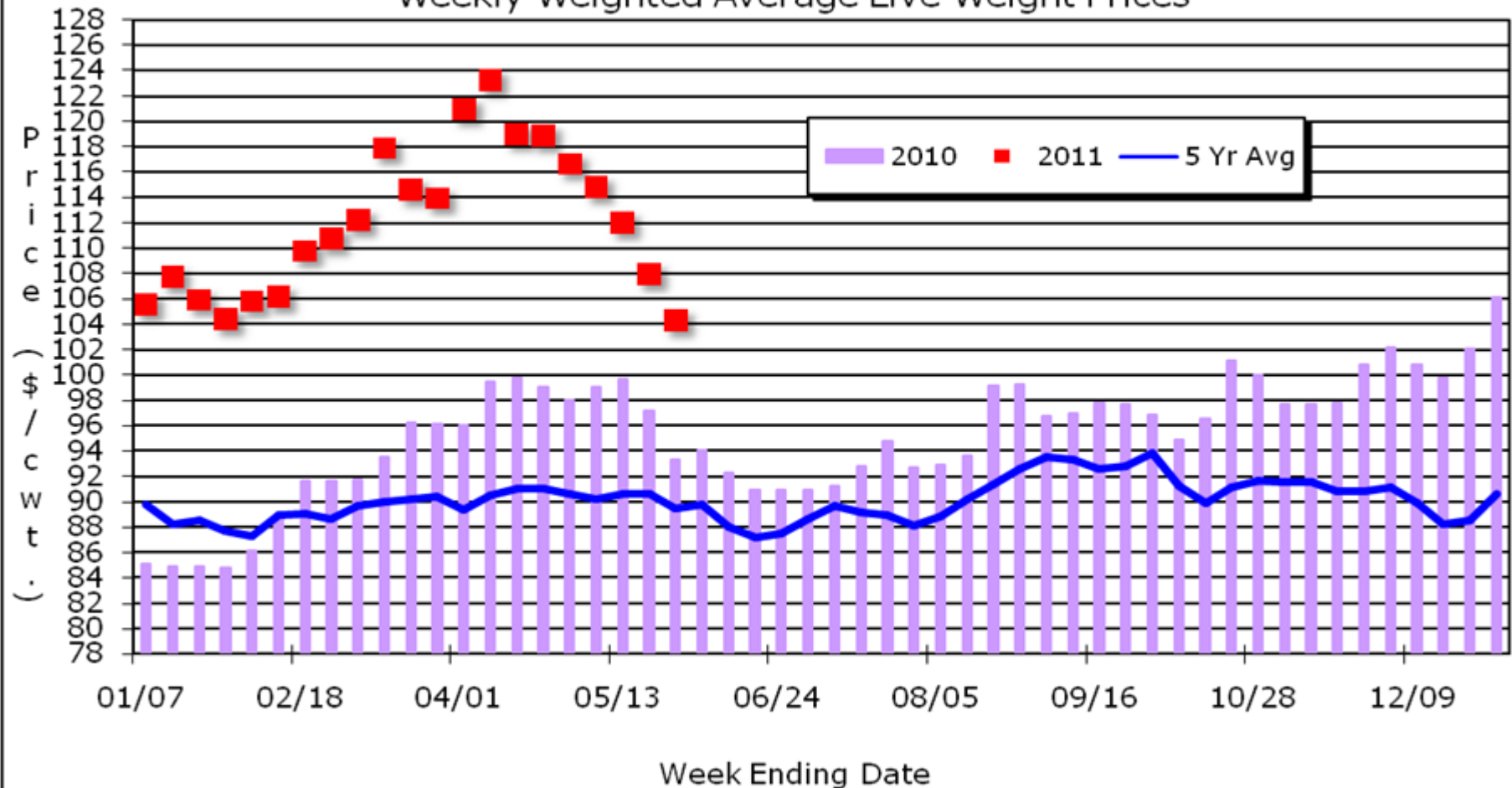


Livestock Marketing Information Center
Data Source: USDA/NASS

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Kansas Direct Slaughter Steers

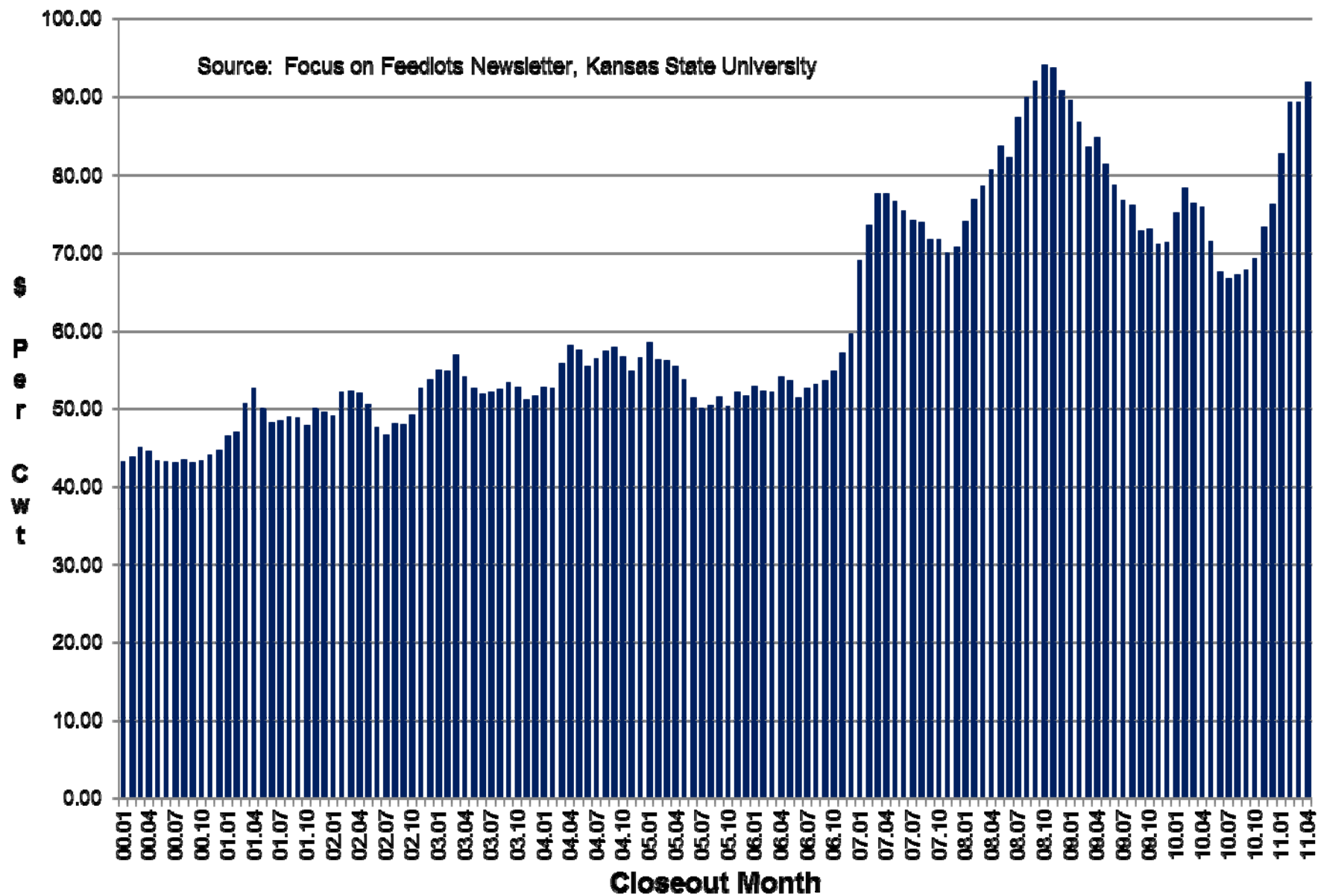
Weekly Weighted Average Live Weight Prices



Source: USDA & K-State Ag. Economics

KSU Dept. of Ag Econ
www.agmanager.info

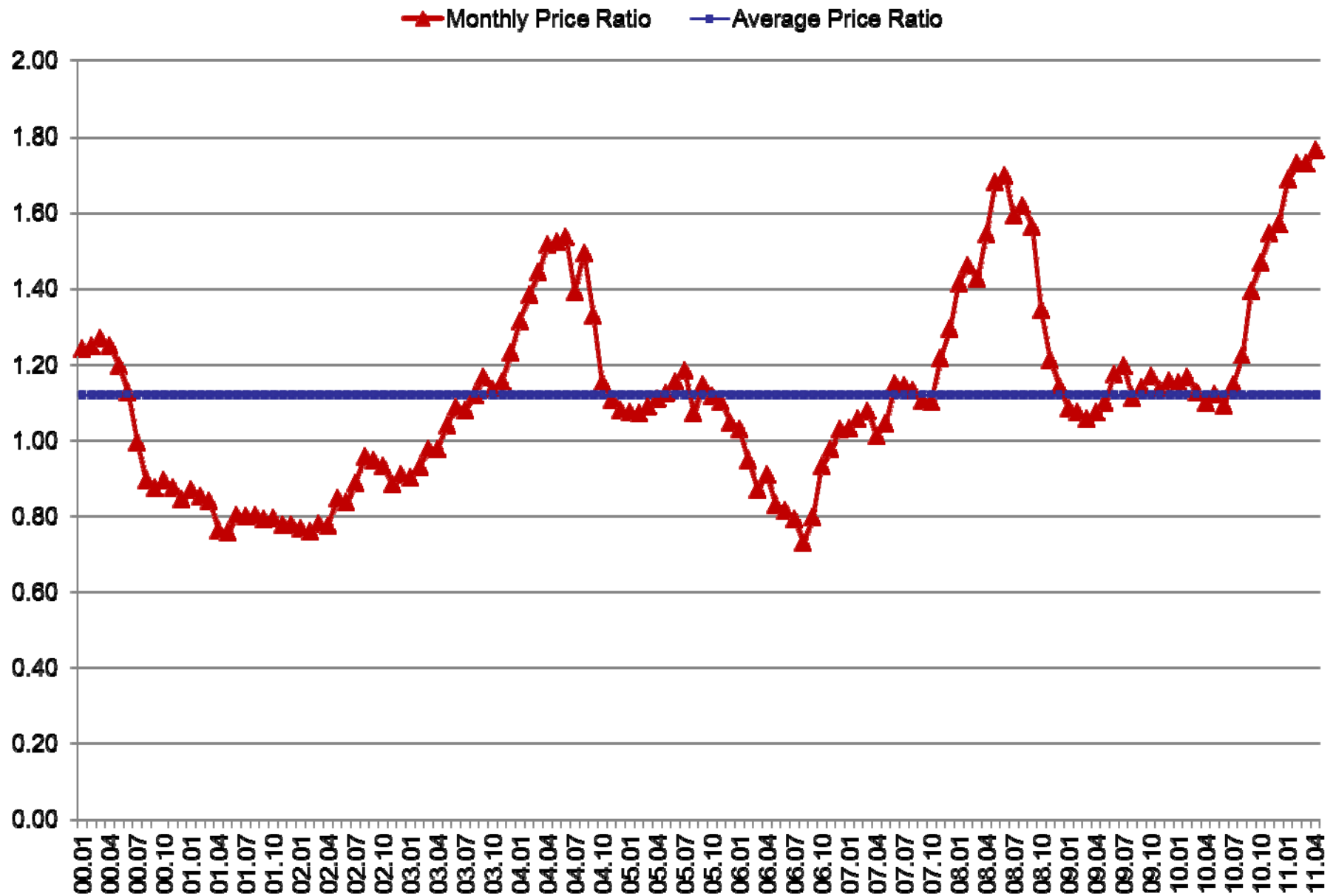
Feeding Cost of Gain for Steers



Factors Impacting Feeding Cost of Gain

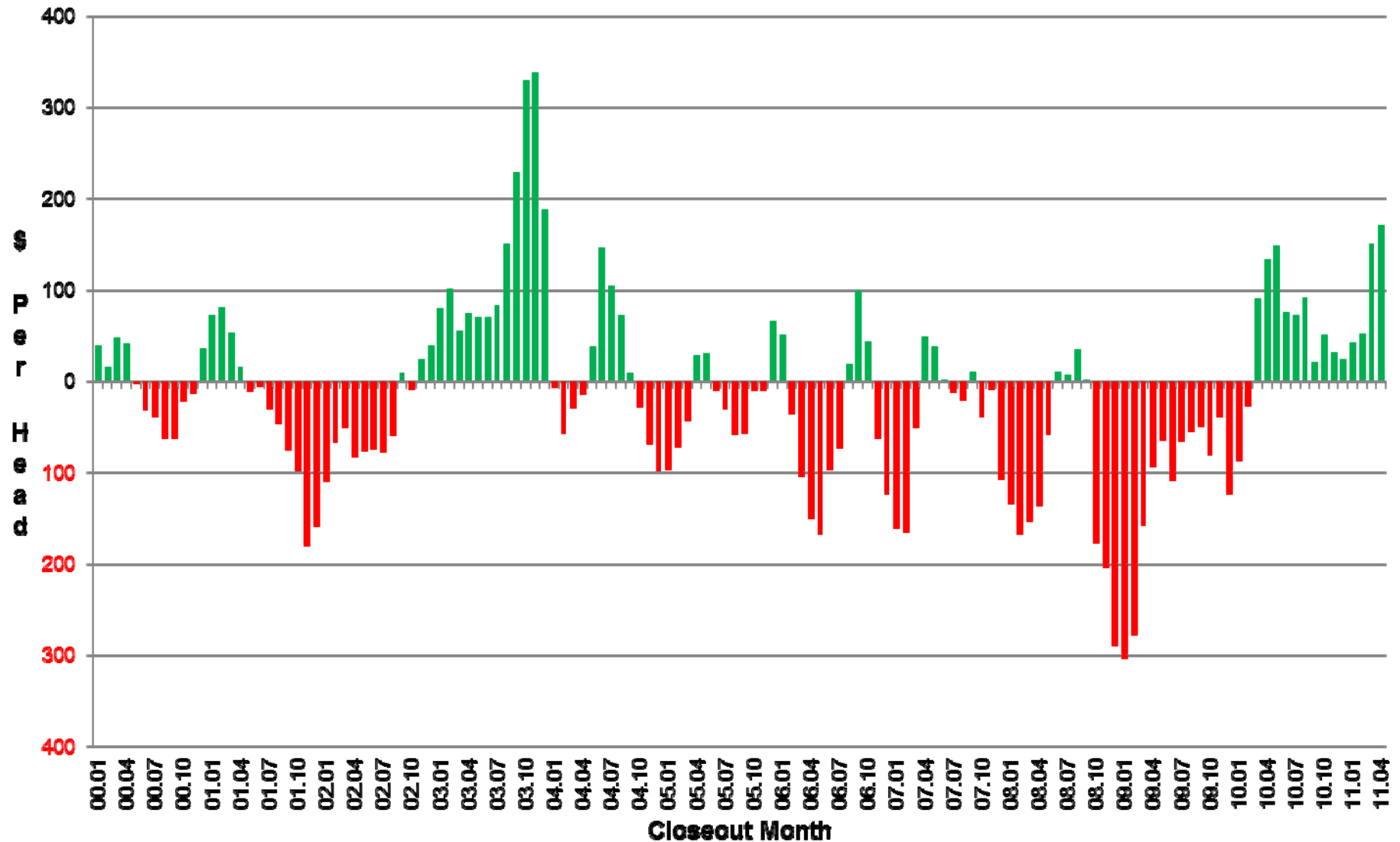
| Source: Net Return Series, Kansas State University | Change Analyzed | Per Cwt Impact |
|---|----------------------------|---------------------------|
| Feed Conversion (Index) | +0.10 | \$0.98 |
| Corn Price (\$/bu) | +0.10 | \$1.13 |
| Alfalfa Price (\$/ton) | +5.00 | \$0.33 |

Corn to Alfalfa Price Ratio, Kansas



Historical Net Returns for Finishing Steers, Kansas

Source: Michael Langemeler, Kansas State University



Beef and Ethanol

- Synergy
 - Use of by-products in livestock rations (dry and wet distiller's grain)
 - Crude protein:
 - Corn: 7.5%
 - DDGs: 27%
 - Inclusions in rations:
 - Cattle on Feed: 20 to 30%
 - Layer, Broiler: 15 to 20%
 - Turkeys: 15 to 20%
 - Market Swine: 15 to 20%

Beef and Ethanol

- Competition
 - Approximately 38% of the U.S. corn crop is used for ethanol; this is similar to the amount represented by feed and residual
 - Impact of ethanol production on:
 - Corn Price?
 - Volatility of Corn Price?

Contact Information

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