

A Look into the Future of the Cattle Industry

**Current Status, Farm-Level Profitability Drivers,
and Industry Position**

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**FORTY-
SECOND
ANNUAL**

Cornbelt Cow-Calf Conference

Saturday, January 19, 2013

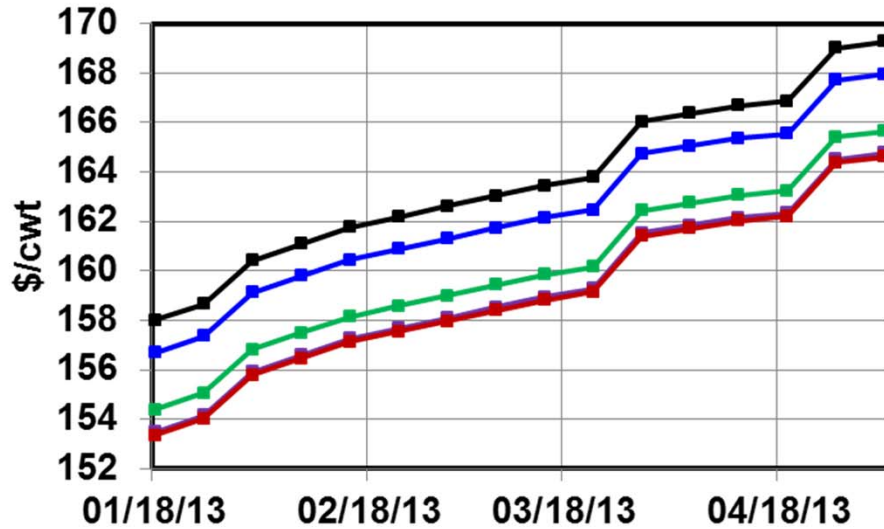


Economic Outlook Overview: Cow-Calf

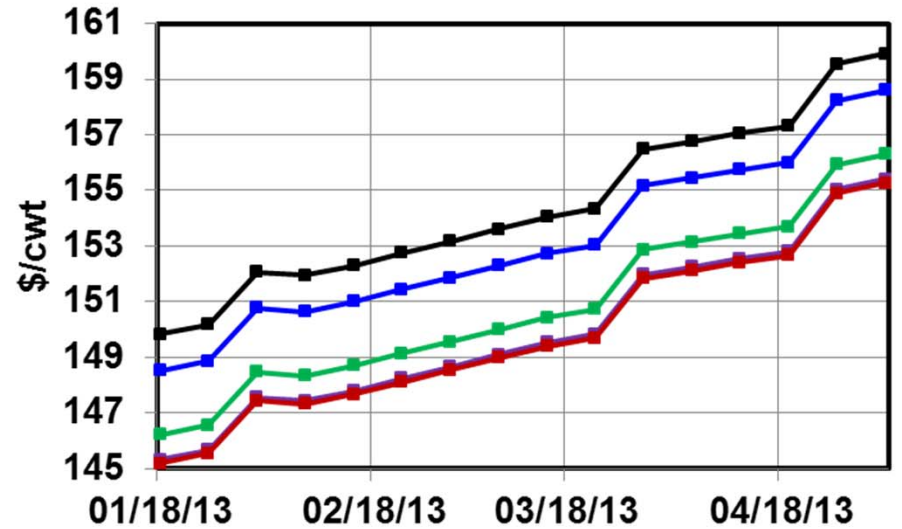
- Historical year for calf and feeder price levels and variability
 - National vs. regional drought magnified market impact compared to 2011
 - “White hot” market in the Spring
- Return over cash costs
 - Good profit potential; cost management key
 - 2012 (2013) estimates have fell over \$170/cow (\$75) from Mar to Dec
 - Will 2015 now be “the peak return year”?
- Further widening between top 1/3 and bottom 1/3 of producers?
 - Cost management drives majority of differences in returns and is likely even more critical in period of drought response

Projected Steer Prices at Selected Iowa Auctions

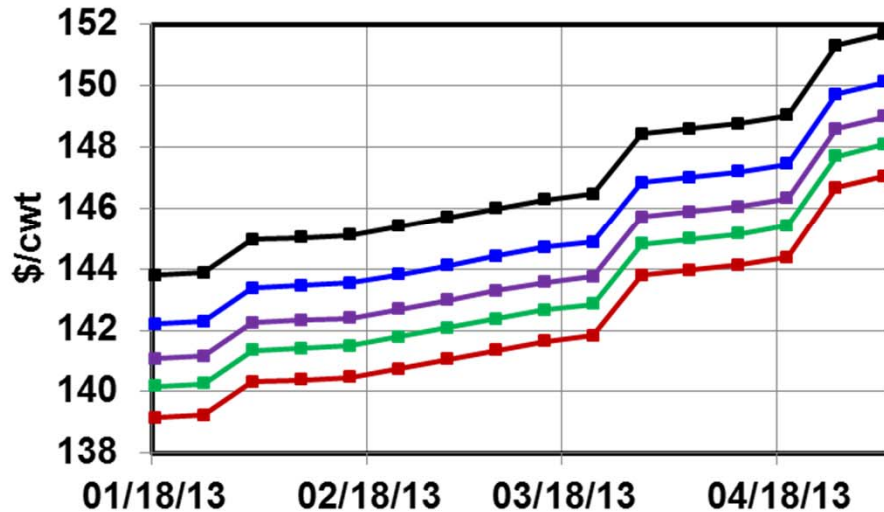
550 lbs



650 lbs



750 lbs

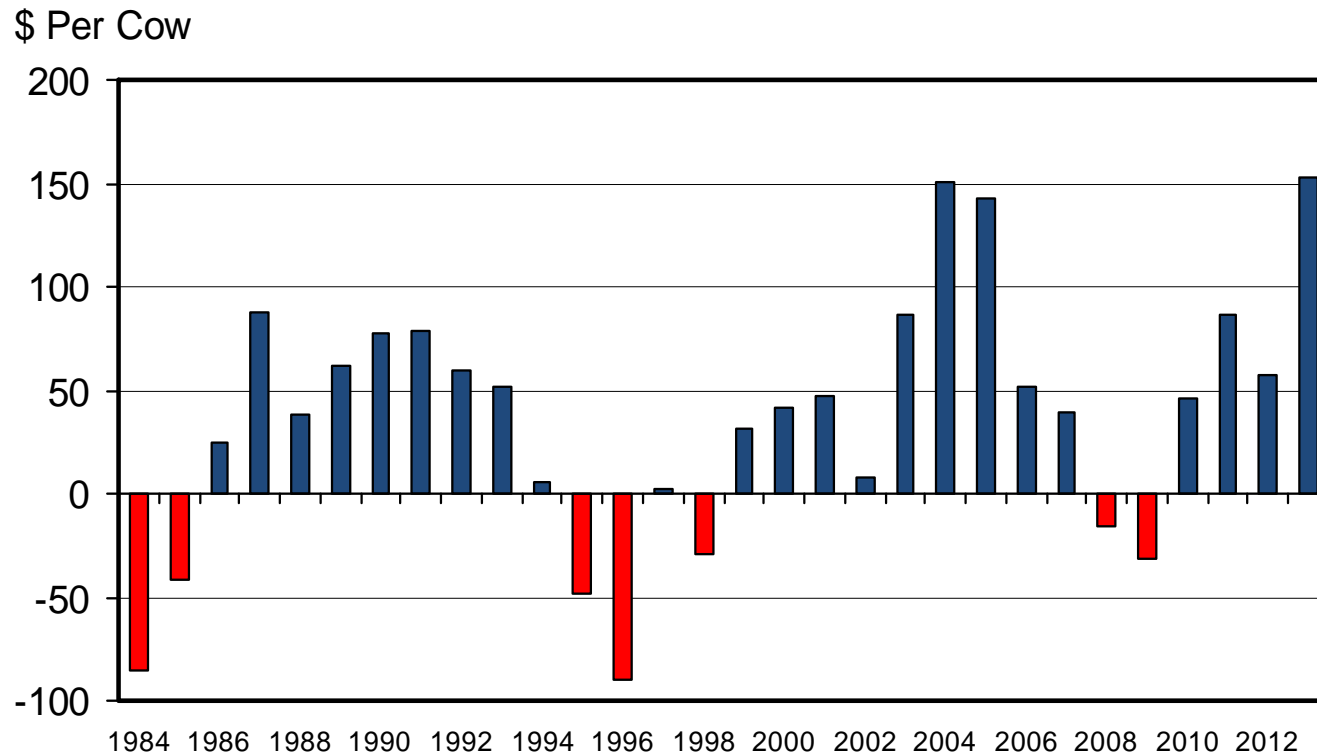


- Bloomfield
- Denison
- Dunlap
- Humeston
- Tama Auction

Source: BeefBasis.com, 01/18/2013

ESTIMATED AVERAGE COW CALF RETURNS

Returns Over Cash Cost (Includes Pasture Rent), Annual







Livestock Marketing Information Center

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

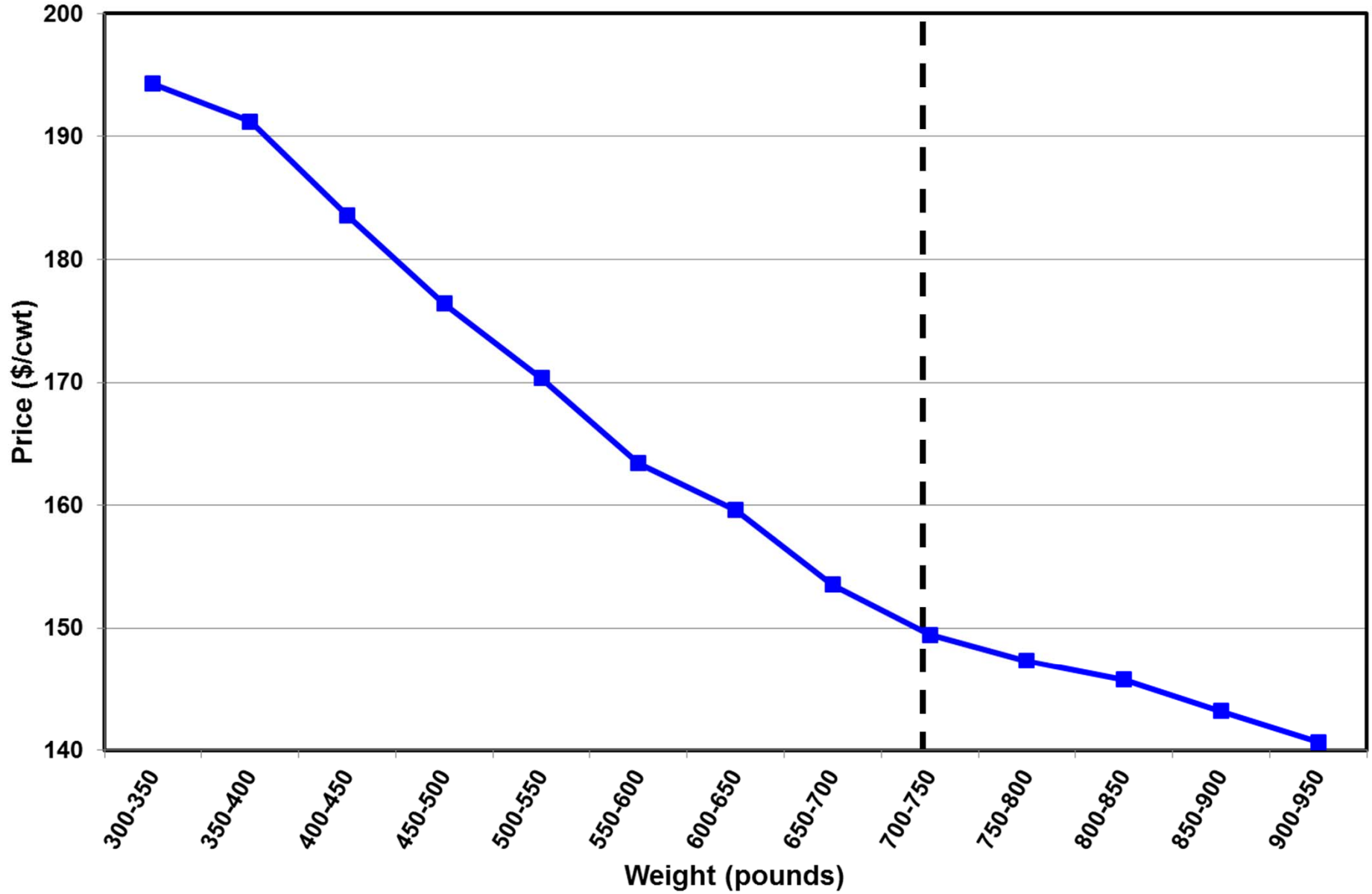
C-P-66
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Economic Outlook Overview: Stocker

- Historically high values of gain (VOG)
 - But also historically high costs of gain (COG)
- Of course, not everyone has their typical feedstuffs/resources to engage this winter
 -  VOG =  rewards for sound management
 -  COG =  pain of hiccups or poor management
- Many producers feeding something “new”
 - Is there a widening gap between returns of stocker operations?

Price-Weight Relationships

Medium/Large No. Steers, Missouri Auctions, Dec12-Jan13

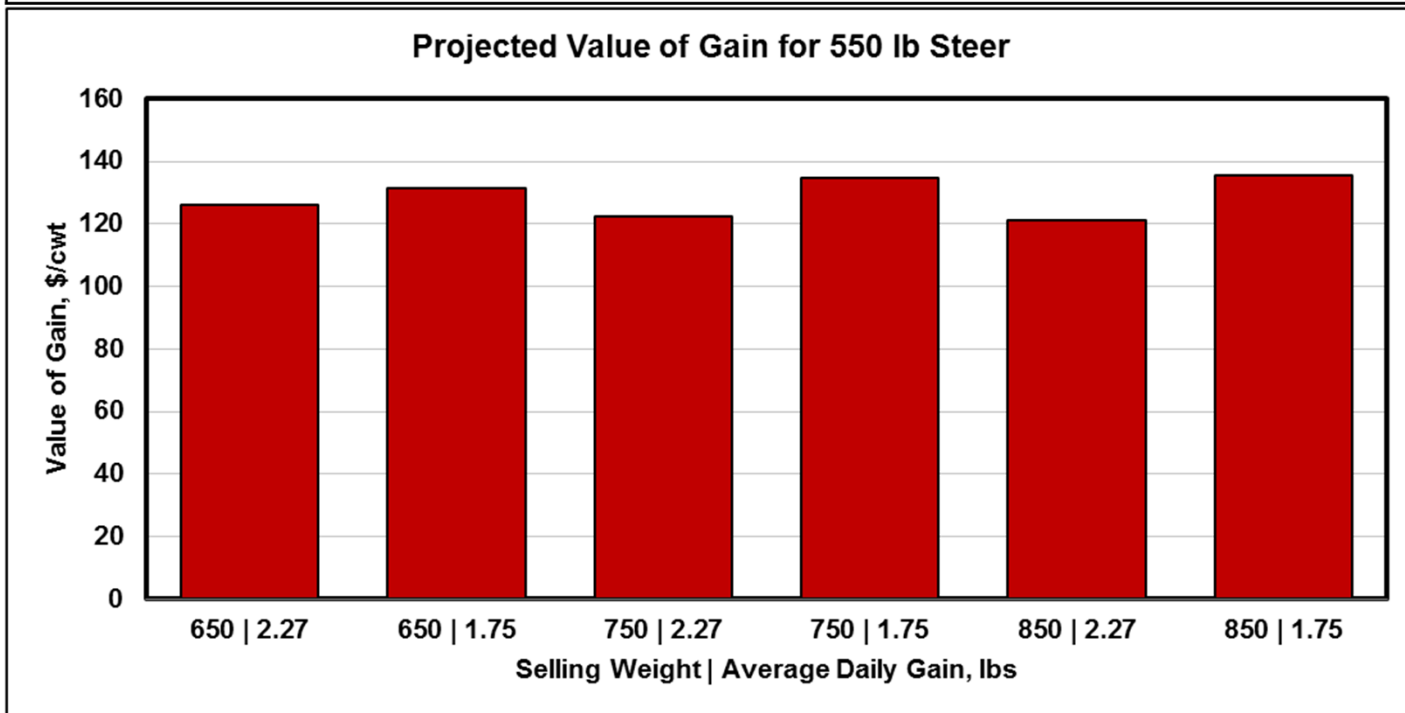


Beginning Weight, lbs	Ending Weight, lbs	Date	Weight Gain, lbs/head	ADG, lbs	Value of Gain, \$/cwt
550	650	03/03/13	100	2.27	\$126.15
550	650	03/16/13	100	1.75	\$131.28
550	750	04/16/13	200	2.27	\$122.48
550	750	05/12/13	200	1.75	\$134.59
550	850	05/18/13	300	2.50	\$121.15
550	850	06/17/13	300	2.00	\$135.74

Note: Projections derived for the Dunlap, IA market using BeefBasis.com

Related information available at BeefBasis.com

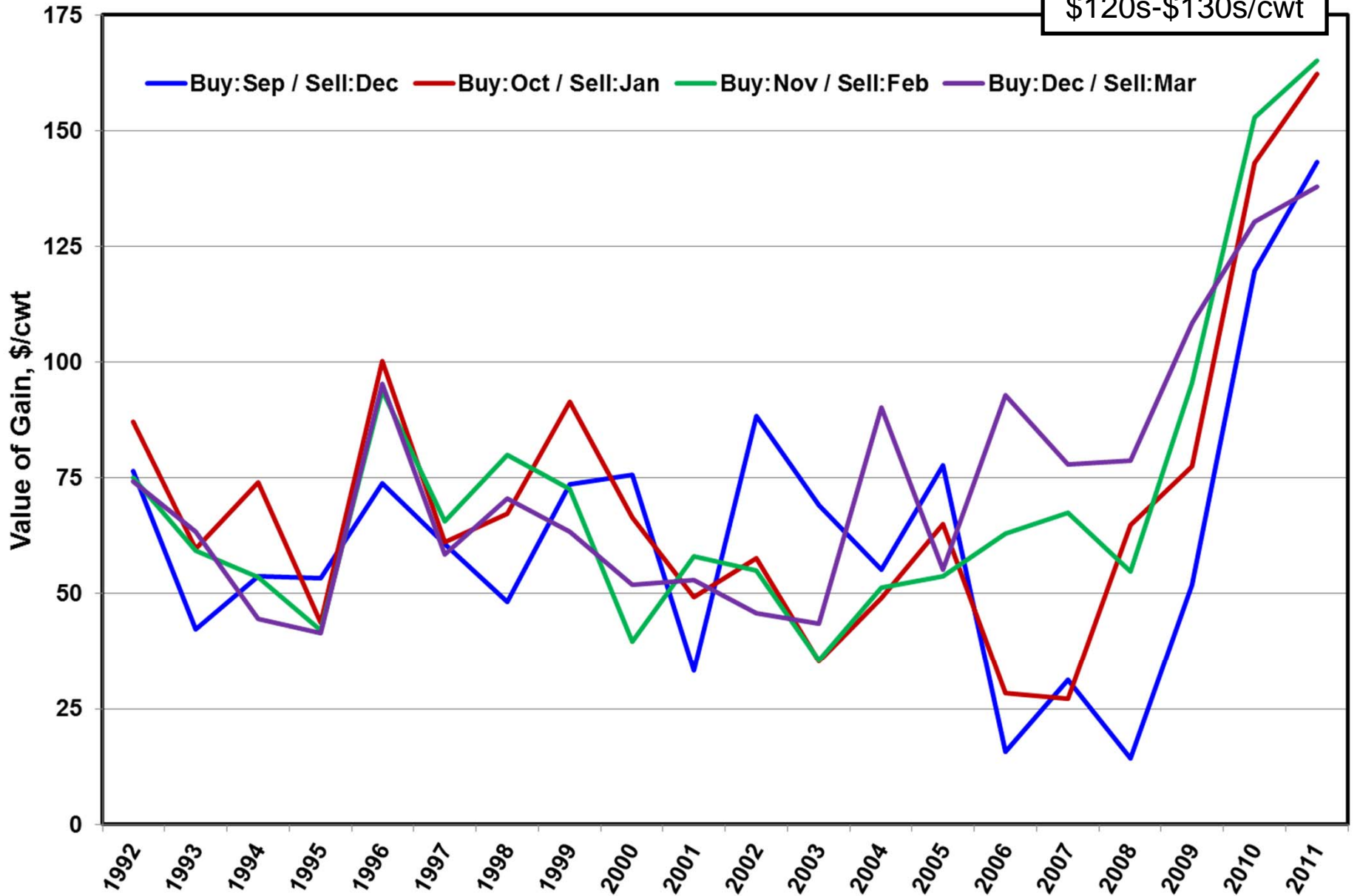
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Historical Value of Gain

St Joseph, MO (550 to 750 in 3 months)

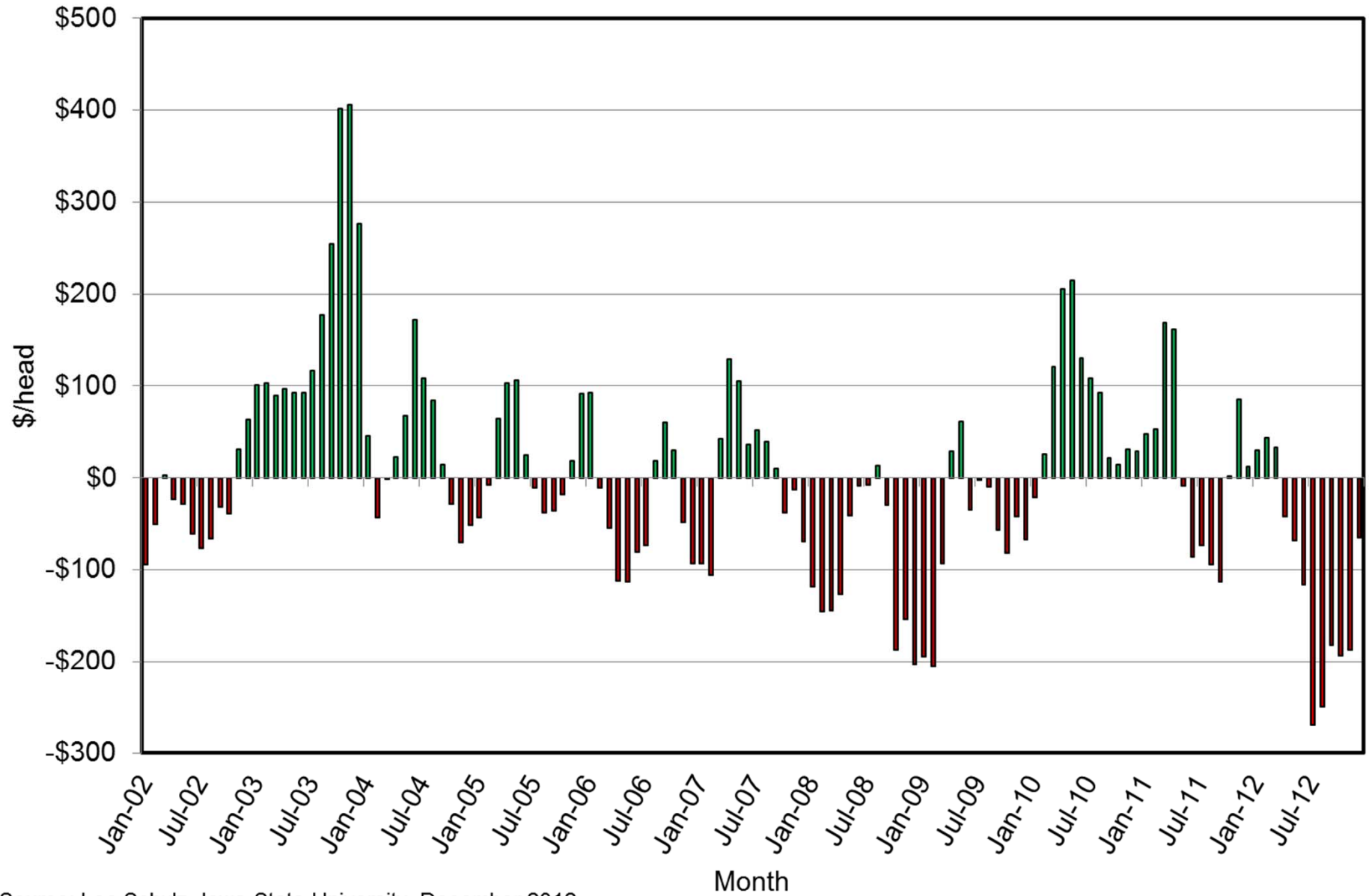
Projections
(1/18/13)
\$120s-\$130s/cwt



Economic Outlook Overview: Feedlot

- Excess capacity concerns remain and are growing
 - Drought and Mexican feeder supplies mitigated this initially / magnifying it now and going forward
- Closeouts have been at historically high losses
 - 12-month rolling average thru Dec-12 = **-\$105.52/head**
- Recent and future placements +/- breakeven margins
 - Watch response to shrinking available supplies
- Cattle prices pushed higher by limited supplies
 - Commercial slaughter down 4-7%

Estimated Returns to Finishing Yearling Steers in Iowa Jan-02 thru Dec-12



Source: Lee Schulz, Iowa State University, December 2012

Cattle Crush Margin

The Crush Margin is the return after the feeder steer and corn costs.

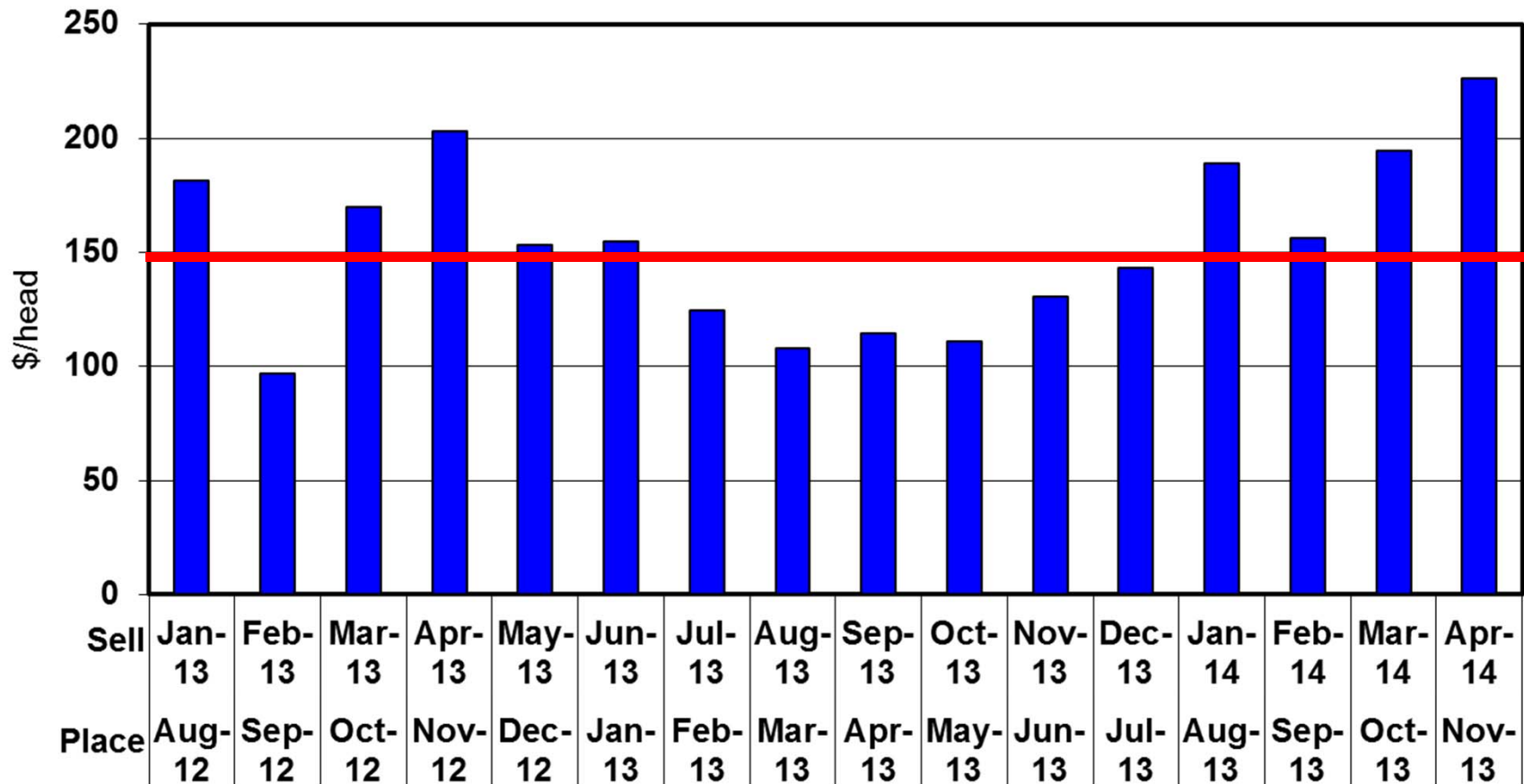
Live weight: 1250 pounds

Feeder weight: 750 pounds

Corn: 50 bushels/head

Source: <http://www.econ.iastate.edu/margins/>

Projected Yearling to Finish Crush Margin, January 16, 2013



Quarterly Forecasts (LMIC:01/18/13)

Year Quarter	Commercial Slaughter (1,000 hd)	Change from Year Ago (%)	Average Dressed Weight (lbs)	Change from Year Ago (%)	Commercial Beef Production (mil lbs)	Change from Year Ago (%)
2011						
I	8,314	1.8	771	0.7	6,410	2.6
II	8,640	-0.5	759	0.7	6,559	0.2
III	8,738	-0.2	771	-0.3	6,736	-0.5
IV	8,395	-3.0	773	-0.8	6,490	-3.7
Year	34,087	-0.5	768	0.1	26,195	-0.4
2012						
I	8,027	-3.5	783	1.5	6,283	-2.0
II	8,311	-3.8	779	2.6	6,475	-1.3
III	8,332	-4.6	790	2.5	6,584	-2.3
IV	8,281	-1.4	793	2.6	6,570	1.2
Year	32,951	-3.3	786	2.3	25,912	-1.1
2013						
I	7,662	-4.5	783	0.1	6,001	-4.5
II	7,916	-4.8	779	0.03	6,169	-4.7
III	7,967	-4.4	796	0.7	6,342	-3.7
IV	7,700	-7.0	799	0.8	6,155	-6.3
Year	31,245	-5.2	789	0.4	24,667	-4.8
2014						
I	7,200	-6.0	792	1.2	5,705	-4.9
II	7,457	-5.8	786	0.9	5,861	-5.0
III	7,532	-5.5	805	1.1	6,061	-4.4
IV	7,287	-5.4	807	1.0	5,882	-4.4
Year	29,476	-5.7	798	1.0	23,509	-4.7



Quarterly Forecasts (LMIC:01/18/13)

Year Quarter	Live Slaughter	Change from Year Ago (%)	Feeder Steer Price	
	Steer Price 5-Market Average (\$/cwt)		Southern Plains 7-800#	5-600# (\$/cwt)
2011				
I	110.12	23.1	129.06	150.07
II	112.79	17.1	132.03	148.61
III	114.05	19.5	135.93	141.69
IV	121.99	21.7	143.15	153.11
Year	114.74	20.3	135.04	148.37
2012				
I	125.29	13.8	154.25	182.41
II	120.91	7.2	152.65	178.65
III	119.69	4.9	141.82	150.57
IV	125.54	2.9	146.50	161.42
Year	122.86	7.1	148.81	168.26
2013				
I	128-131	3.4	143-146	161-165
II	128-132	7.5	146-151	163-169
III	126-131	7.4	148-154	164-173
IV	128-134	4.3	149-156	163-170
Year	128-132	5.8	147-151	163-169
2014				
I	132-139	4.6	154-162	175-184
II	134-142	6.2	157-167	178-190
III	132-140	5.8	158-169	174-187
IV	133-143	5.3	156-168	171-185
Year	134-140	5.4	158-165	177-184

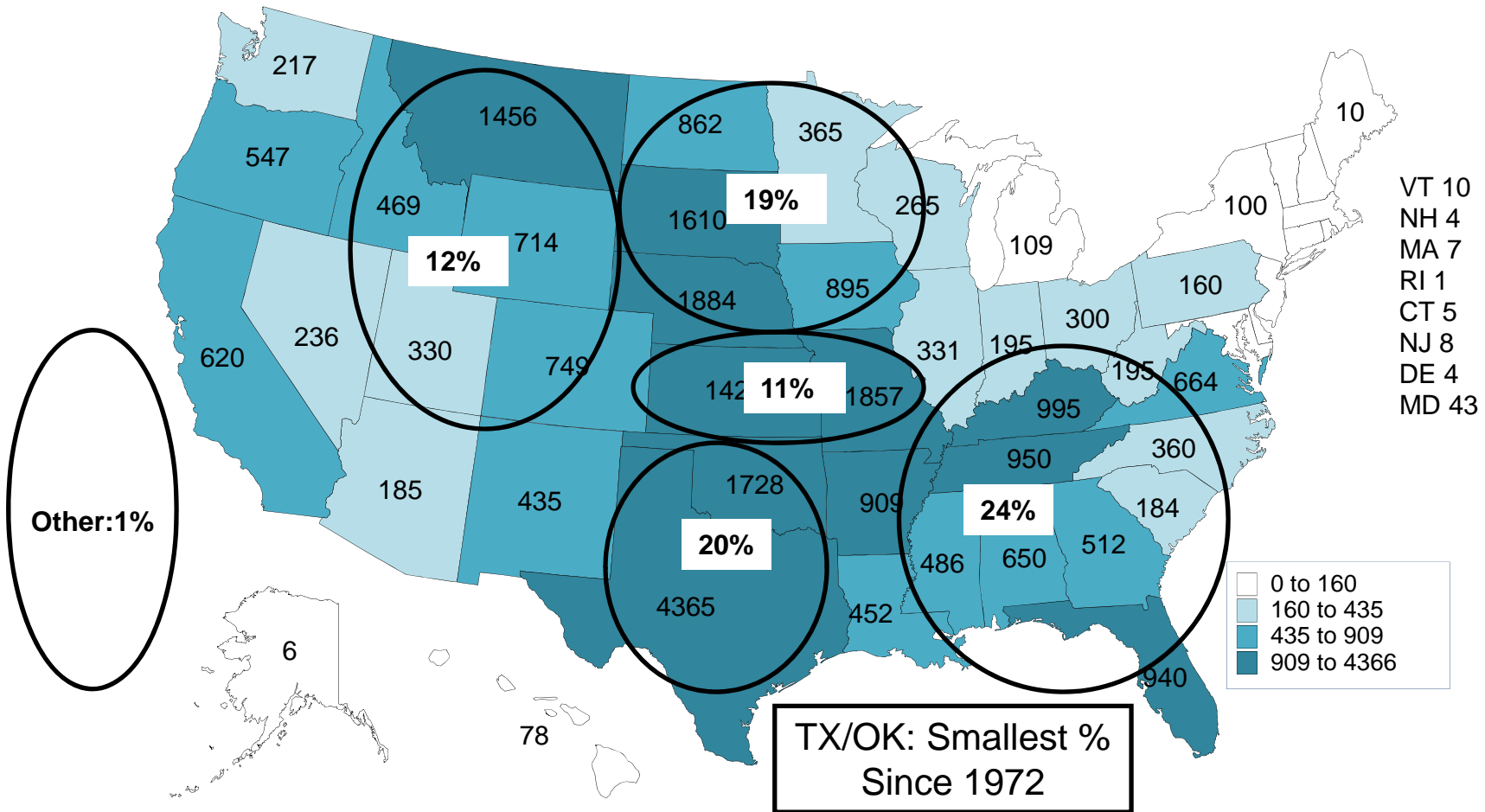
Cattle Herd Status

- Economic incentive to stabilize/rebuild herd overcome by drought
 - 2013 market will reflect tight supplies, moisture prospects, expansion possibilities...
- Tighter supplies...into 2015?
- Continued drought?
 - More liquidation
- ...Or “normal” weather?
 - More heifer retention
 - Breeding cow and heifer demand; higher prices

BEEF COWS THAT CALVED JANUARY 1, 2012

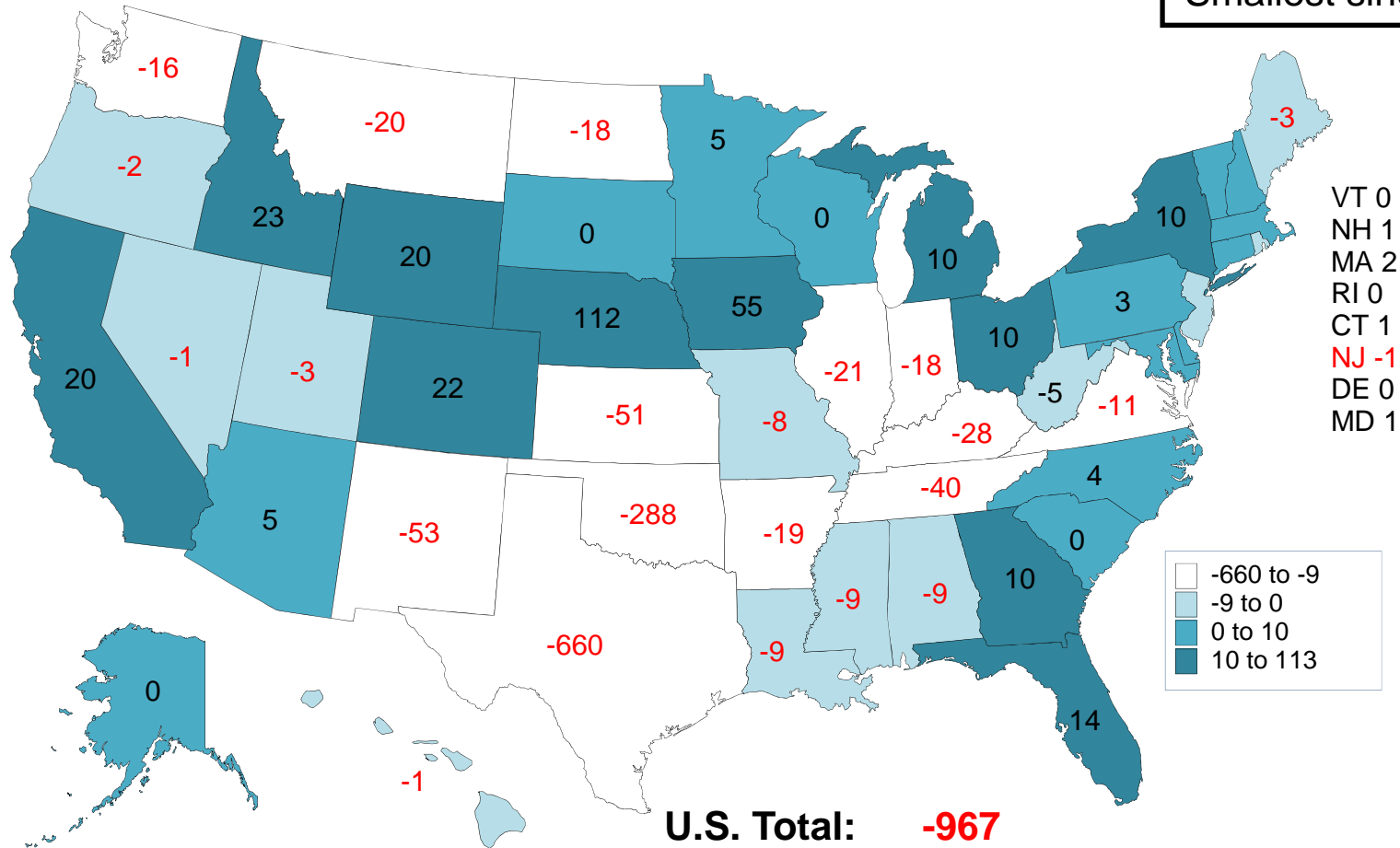
(1000 Head), US Total 29,883

National Herd:
-3.1% (vs. 2011)
Smallest since 1962



CHANGE IN BEEF COWS NUMBERS JANUARY 1, 2011 TO JANUARY 2012 (1000 Head)

National Herd:
-3.1% (vs. 2011)
Smallest since 1962

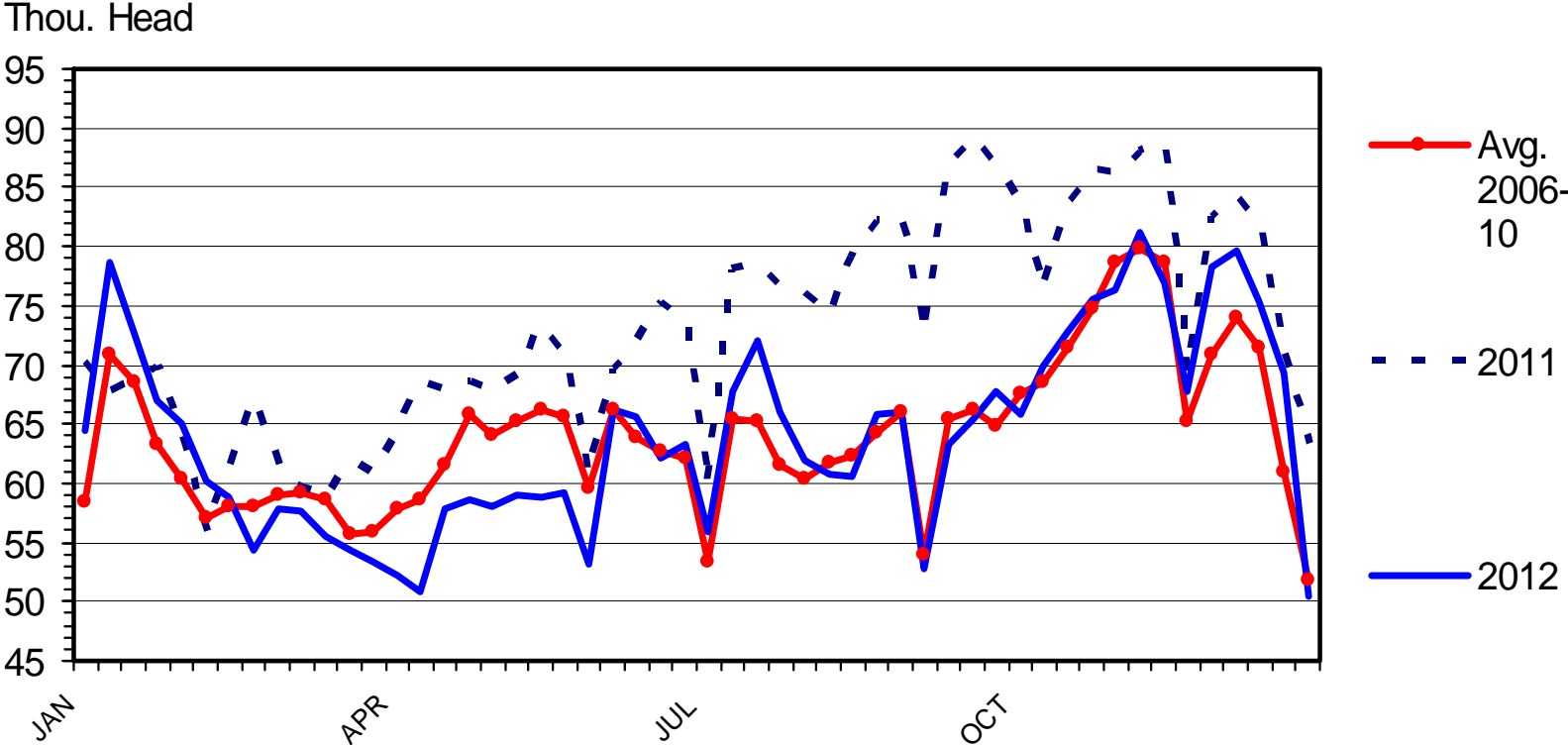


U.S. Total: -967

**TX + OK = 98.1% of
National Decline**

BEEF COW SLAUGHTER

Federally Inspected, Weekly



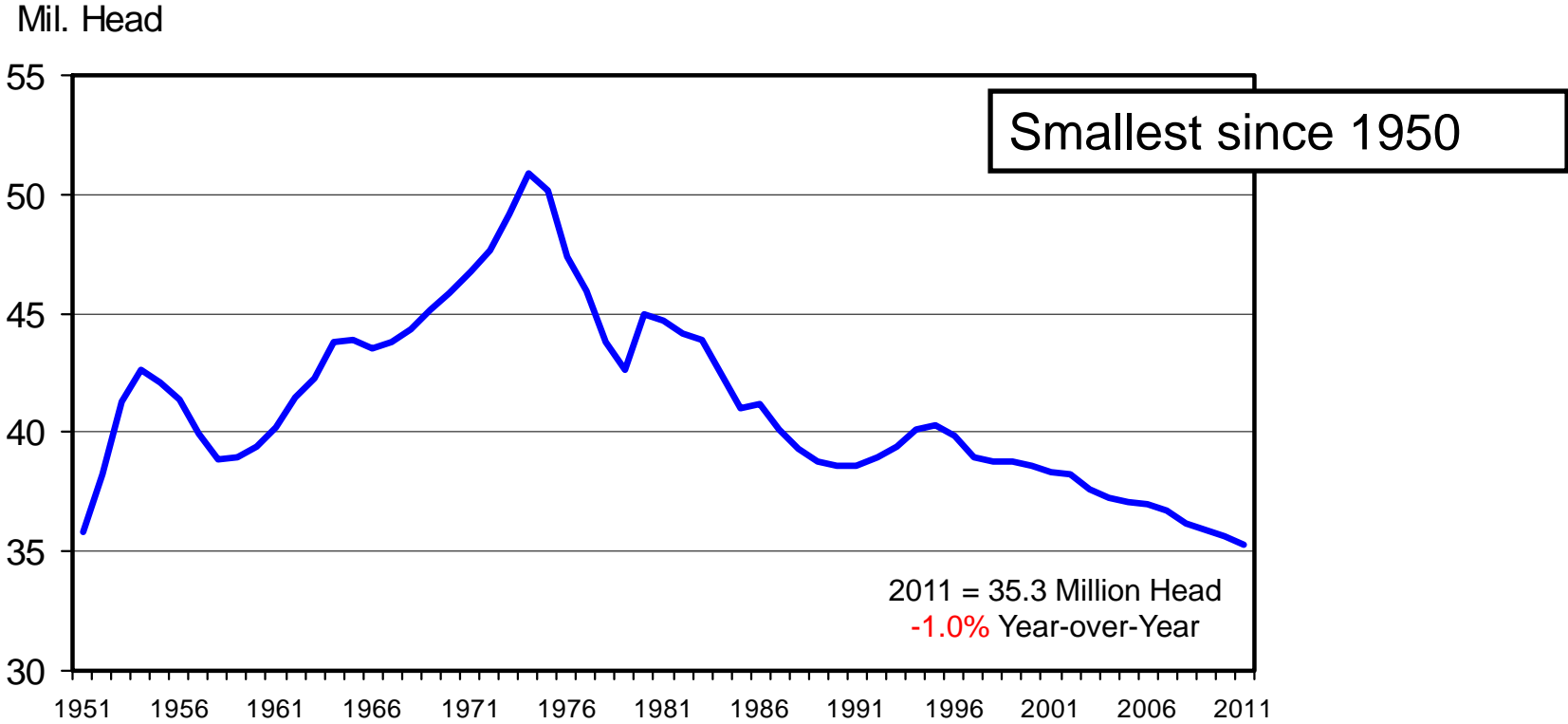
Livestock Marketing Information Center

Data Source: USDA-AMS & USDA-NASS

C-S-34
01/11/13

CALF CROP

U.S., Annual

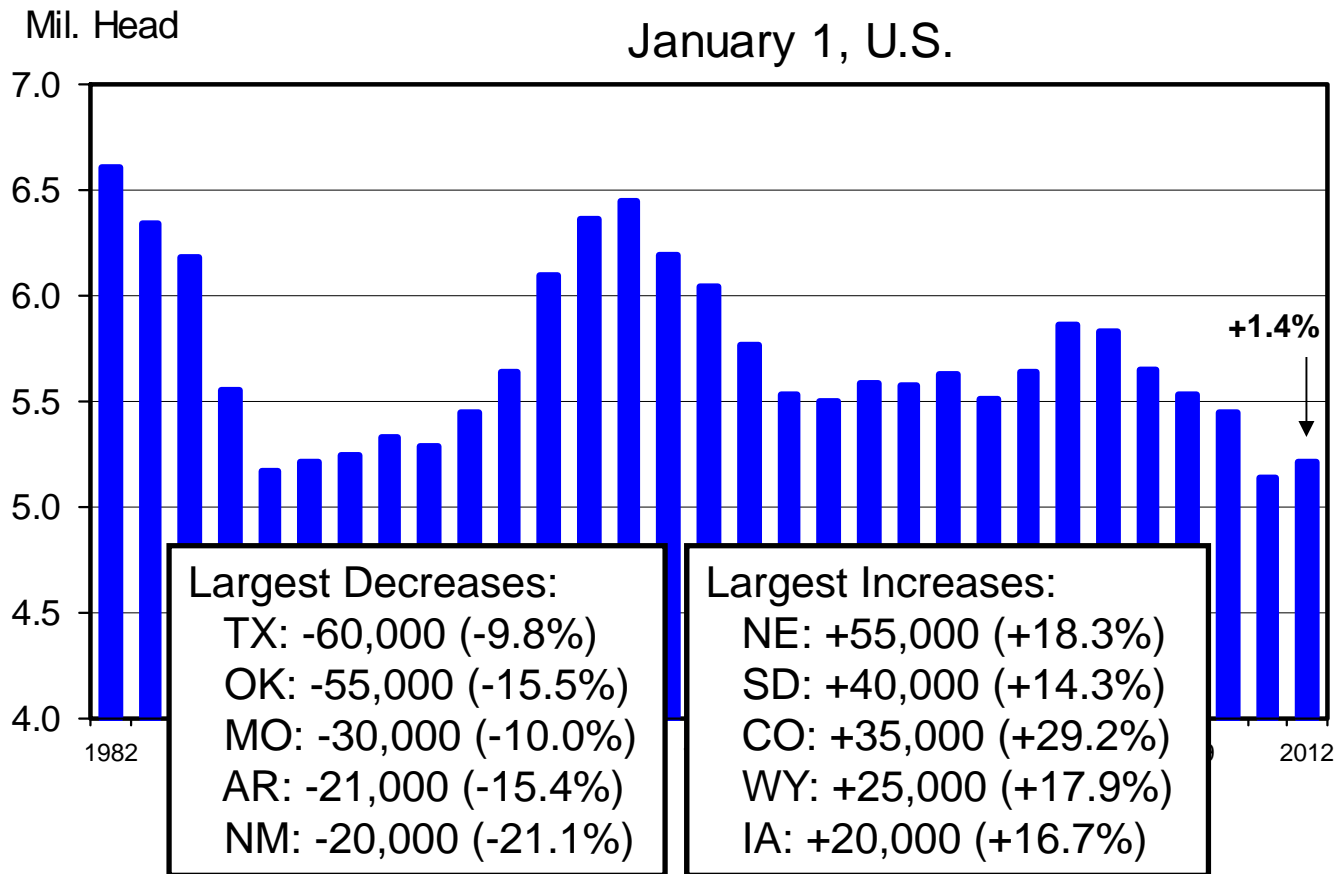


Livestock Marketing Information Center

Data Source: USDA-NASS

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HEIFERS HELD AS BEEF COW REPLACEMENTS



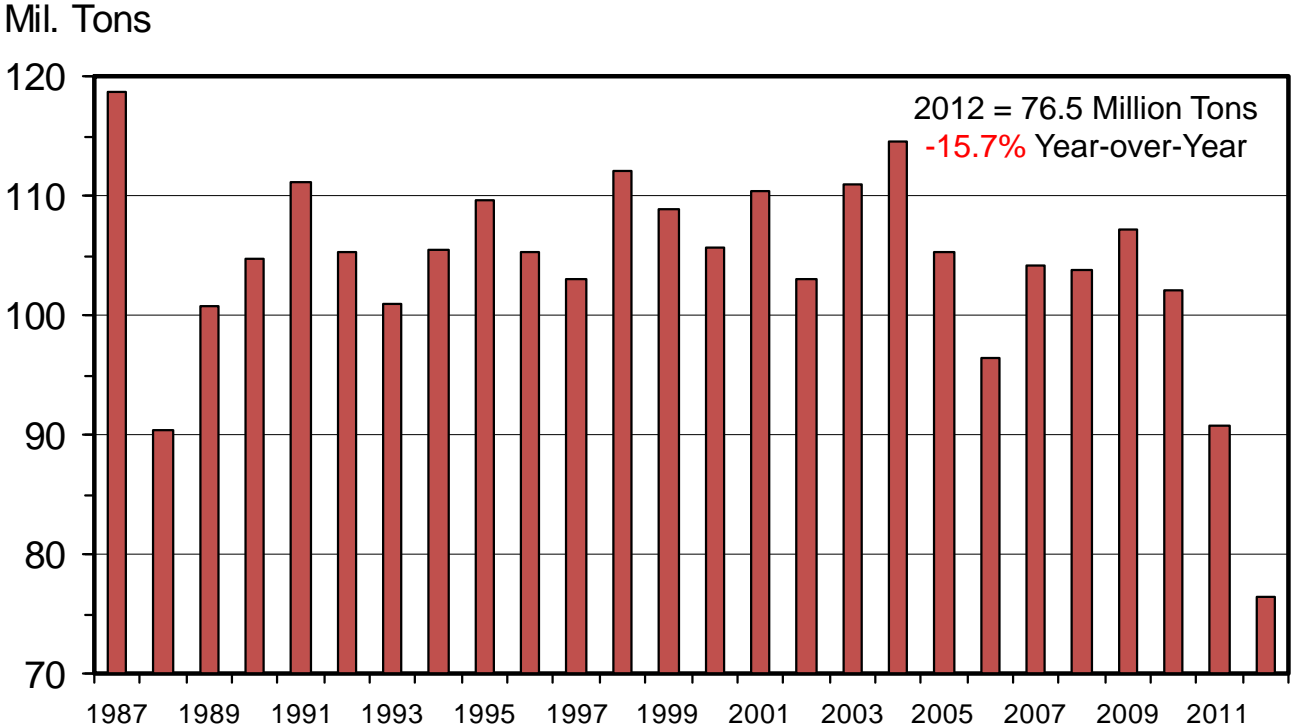
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Livestock Marketing
Information Center
Data Source: USDA-NASS

When will the U.S. national herd expand?
-- who/where will expansion occur???

U S ALL HAY STOCKS

December 1



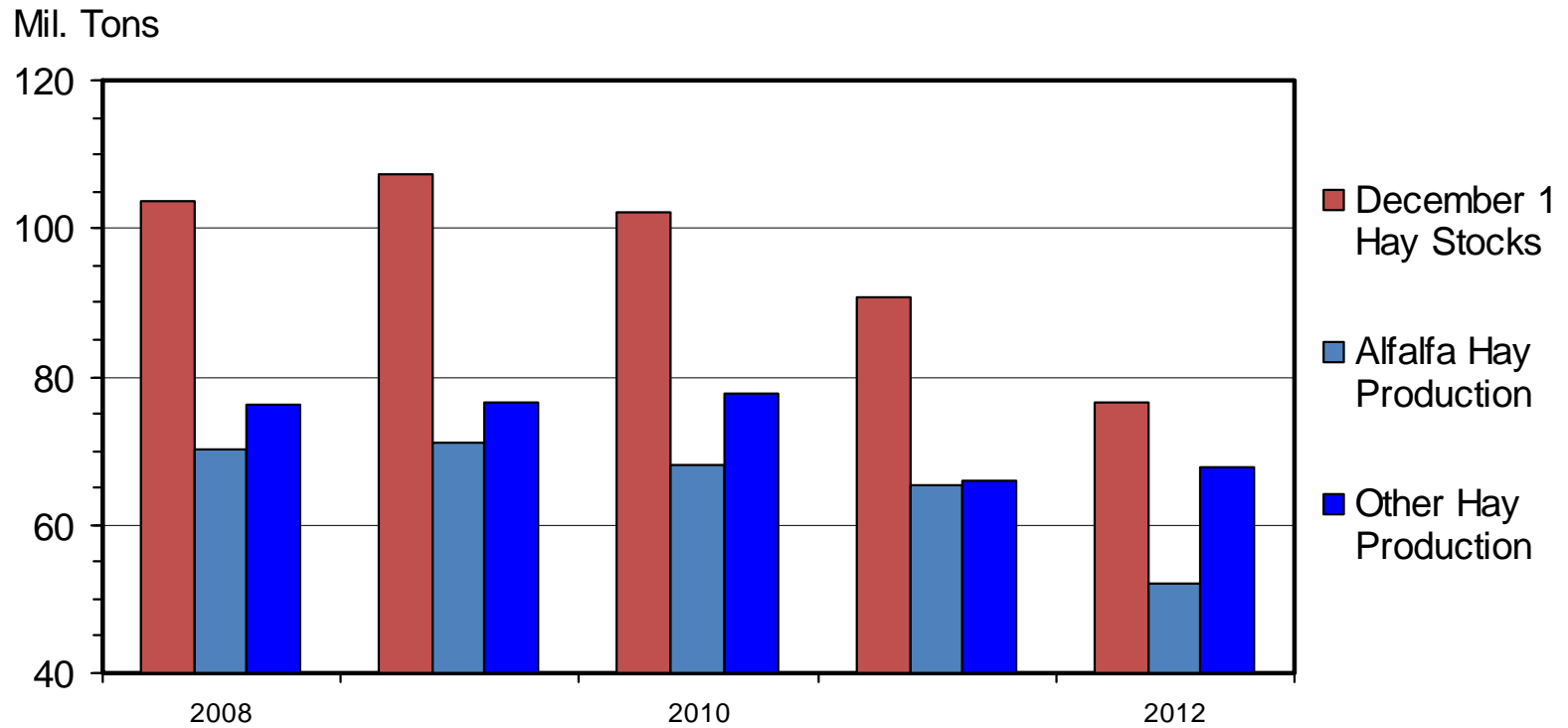
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Data Source: USDA-NASS, Compiled & Forecasts by LMIC

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U S HAY STOCKS AND PRODUCTION

Crop Year

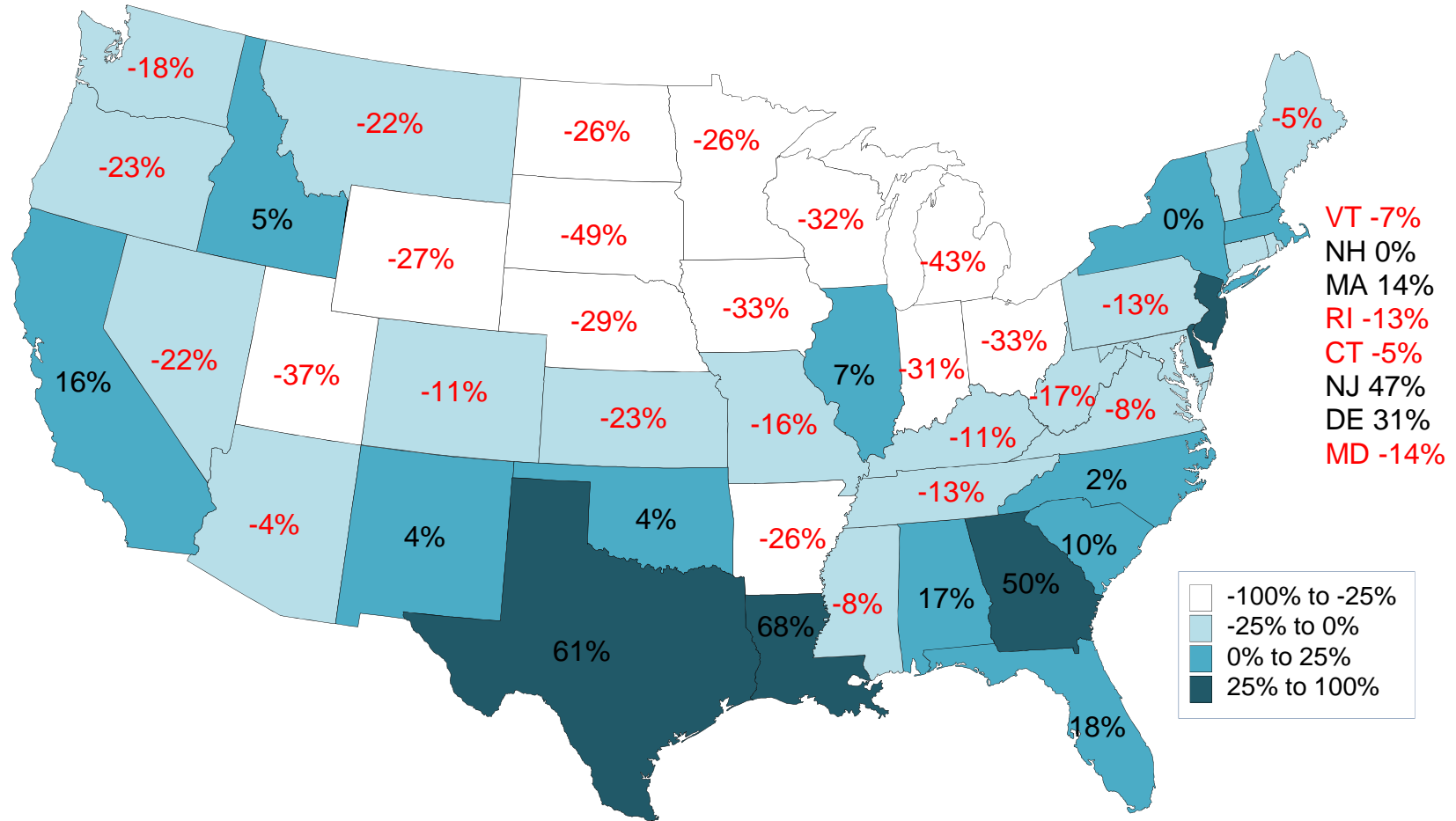


Livestock Marketing Information Center

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

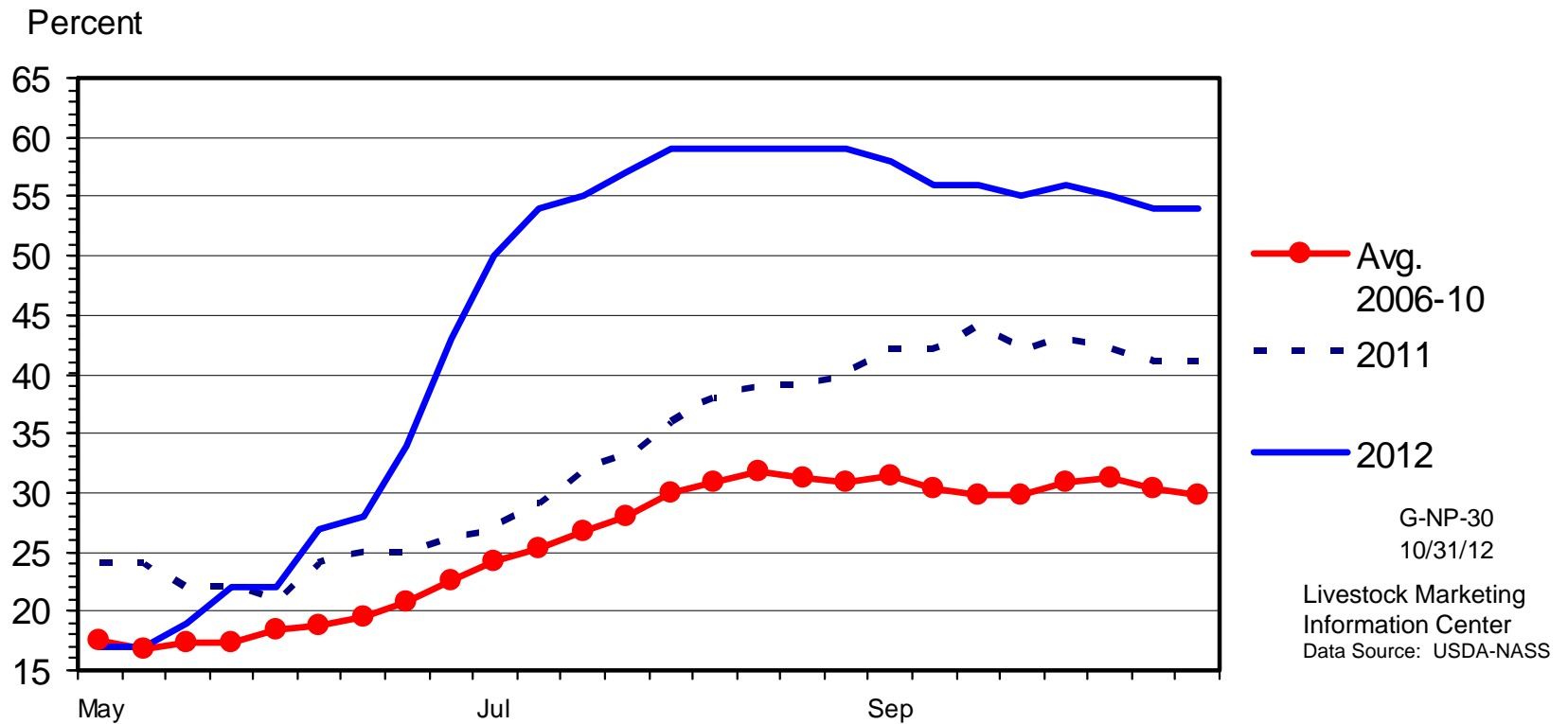
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PERCENT CHANGE DECEMBER 1 HAY STOCKS (2012-2011)



US RANGE AND PASTURE CONDITION

Percent Poor and Very Poor, Weekly



October 2012: 71% of Beef Cows in States with > 40% Poor to Very Poor Pasture Conditions (46% in 2011 & 20% in 2010)

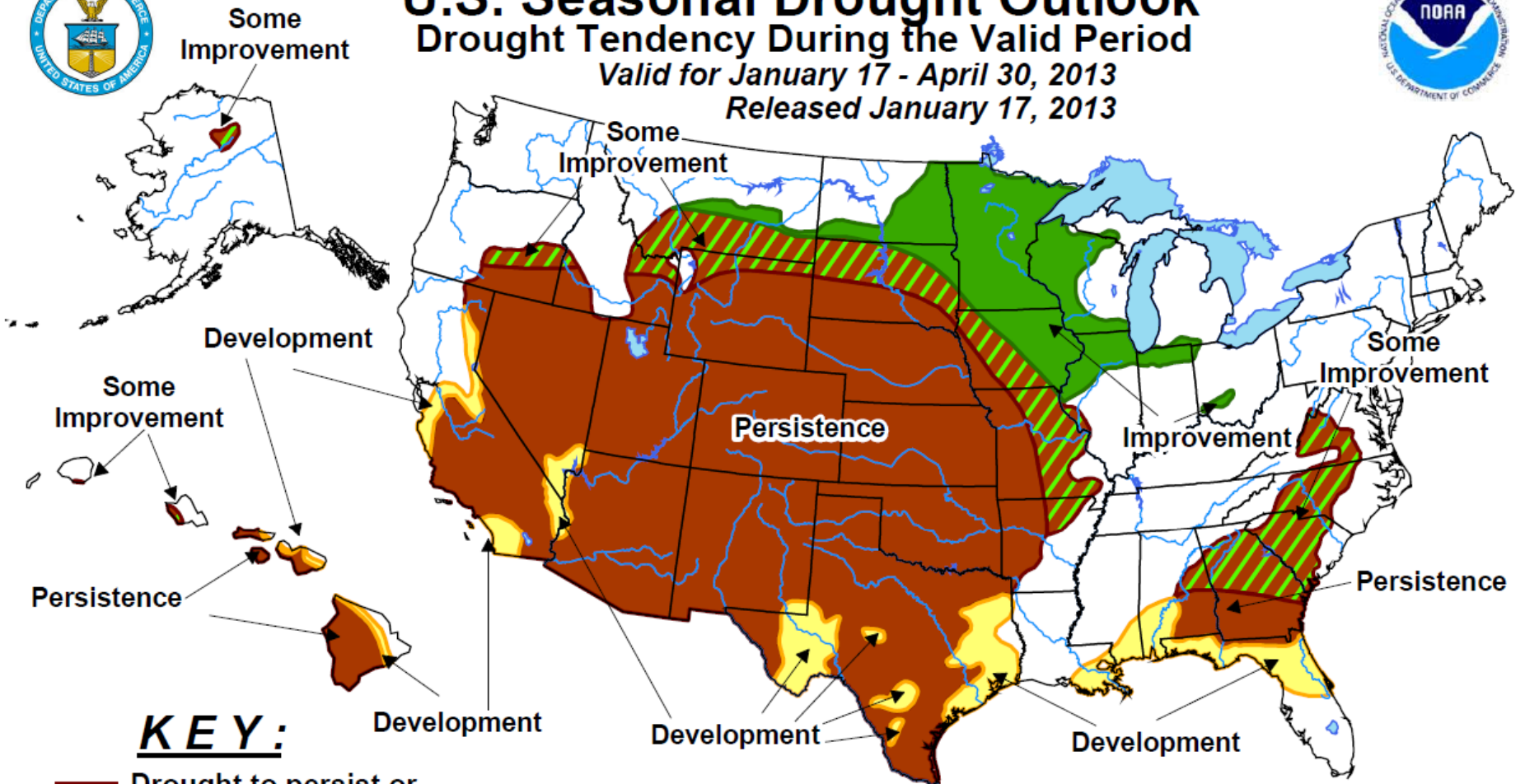


U.S. Seasonal Drought Outlook





Drought Tendency During the Valid Period

Valid for January 17 - April 30, 2013

Released January 17, 2013



KEY:

-  Drought to persist or intensify
-  Drought ongoing, some improvement
-  Drought likely to improve, impacts ease
-  Drought development likely

No Drought Posted/Predicted 

Depicts large-scale trends based on subjectively derived probabilities guided by short- and long-range statistical and dynamical forecasts. Short-term events -- such as individual storms -- cannot be accurately forecast more than a few days in advance. Use caution for applications -- such as crops -- that can be affected by such events. "Ongoing" drought areas are approximated from the Drought Monitor (D1 to D4 intensity). For weekly drought updates, see the latest U.S. Drought Monitor. NOTE: the green improvement areas imply at least a 1-category improvement in the Drought Monitor intensity levels, but do not necessarily imply drought elimination.

Build herd -- How much can I pay for a heifer/cow?

KSU-Beef Replacements.xls --- A spreadsheet program to evaluate the economic value of purchasing beef replacements females.


Version 1-16-12

INPUTS vs CALCULATED VALUES
In the Price and weights and Net Present Value tabs all blue numbers are inputs and all black numbers are calculated from these inputs.


DESCRIPTION OF INPUTS:
Several input cells (i.e., blue number) have a red diamond in the upper right hand corner of the cell. By moving your mouse cursor over this diamond, a brief description of the input will be displayed on the screen.

MACROS
This spreadsheet uses macros to print the three different pages, however printing can also be done manually by highlighting the desired range and using the menu print commands.

Developed by:
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Extension Agricultural Economist
Kansas State University
Voice: (785) 532-3527
Email: kcd@ksu.edu
www.AgManager.info



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Ready | Introduction | Prices and weights | Net present value | Prices and weights (2) | 95%

KSU-Beef Replacements.xls developed to help producers consider how much they can pay for replacement females given various assumptions.

(Excel spreadsheet available: <http://www.agmanager.info/livestock/budgets/production/default.asp#Beef Cattle>)

Build herd -- How much can I pay for a heifer/cow?

Average cow costs of middle 1/3 = \$803

[Print information](#)

Input Assumptions

Number of replacements purchased	100	Percent marketable calves (1 - death loss)	97.0%
Year of purchase	2013	Annual cow death loss	0.5%
First year for calf sales	2014	Annual cull rate	15.0%
Cull cow weight, lbs/hd	1,250	Annual inflation rate on costs	1.0%
Annual cow costs, \$/year	\$803	Annual increase in average weaning weight	0.0%
Price scenario to use (1-3) (GTT Adj LMIC)	1	Discount rate (interest rate)	6.5%
Weaning weight scenario to use (1-3)	1		

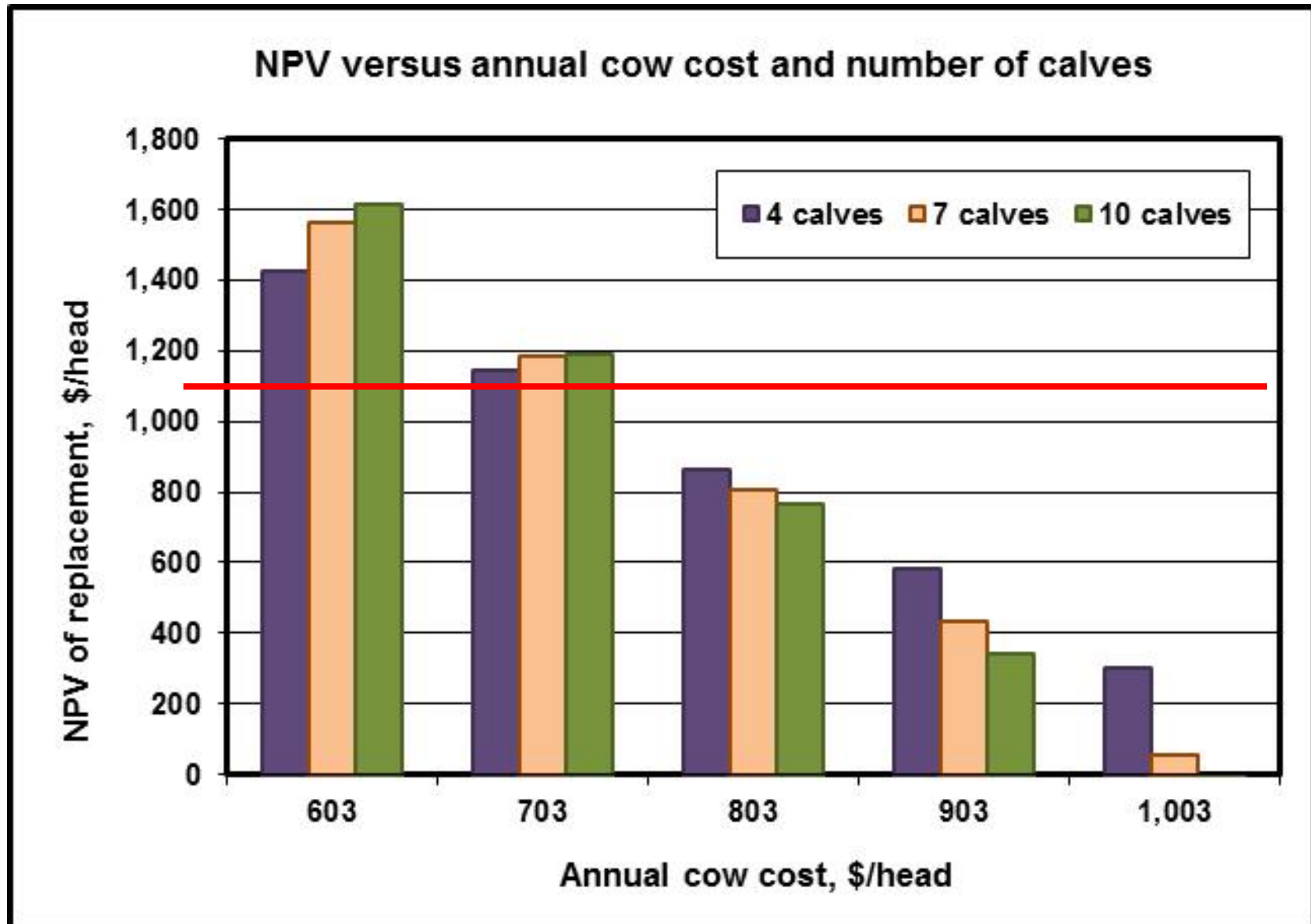
Net Present Value Analysis

Year	Cows at		Prices, \$/cwt		Calf Income	Cull Income		Cost	Net	Discount	NPV**		
	BOY*	Calf	Calf wt	Calf		Cull	Annual					Age	Income
2014	100.0	1	542	\$170.48	\$70.00	\$896	\$131.25	\$739	\$811	\$0	\$217	0.9390	\$898
2015	84.5	2	552	\$164.88	\$70.00	\$746	\$110.91	\$625	\$692	\$0	\$165	0.8817	\$899
2016	71.4	3	562	\$159.28	\$70.00	\$620	\$93.72	\$528	\$591	\$0	\$123	0.8278	\$887
2017	60.3	4	567	\$153.98	\$70.00	\$511	\$79.19	\$446	\$504	\$0	\$86	0.7773	\$864
2018	51.0	5	572	\$153.68	\$70.00	\$435	\$66.92	\$377	\$430	\$0	\$71	0.7299	\$844
2019	43.1	6	572	\$153.68	\$70.00	\$367	\$56.54	\$319	\$367	\$0	\$57	0.6853	\$826
2020	36.4	7	567	\$153.98	\$70.00	\$308	\$47.78	\$269	\$313	\$0	\$43	0.6435	\$809
2021	30.8	8	565	\$154.10	\$70.00	\$260	\$40.37	\$227	\$267	\$0	\$33	0.6042	\$793
2022	26.0	9	562	\$154.28	\$70.00	\$219	\$34.12	\$192	\$228	\$0	\$24	0.5674	\$778
2023	22.0	10	559	\$154.46	\$70.00	\$184	\$28.83	\$162	\$195	\$0	\$18	0.5327	\$765

* BOY = Beginning of year

** Net present value if replacement is sold in this year

Build herd -- How much can I pay for a heifer/cow?



Total costs of bottom, middle, and top 1/3 operations (07'-11' KFMA):
\$961/cow, \$803/cow, and \$697/cow



Cow-calf profitability drivers...

- Analysis of KFMA cow-calf enterprise analysis returns
 - 1979-2011 all operations (examine time effect)
 - 2007-2011 operations with at least three years of data (examine producer effect)
- Paper available on web (www.agmanager.info)



**Differences Between High, Medium,
and Low Profit Producers:**
An Analysis of 2007-2011 Kansas Farm Management Association
Cow-Calf Enterprise

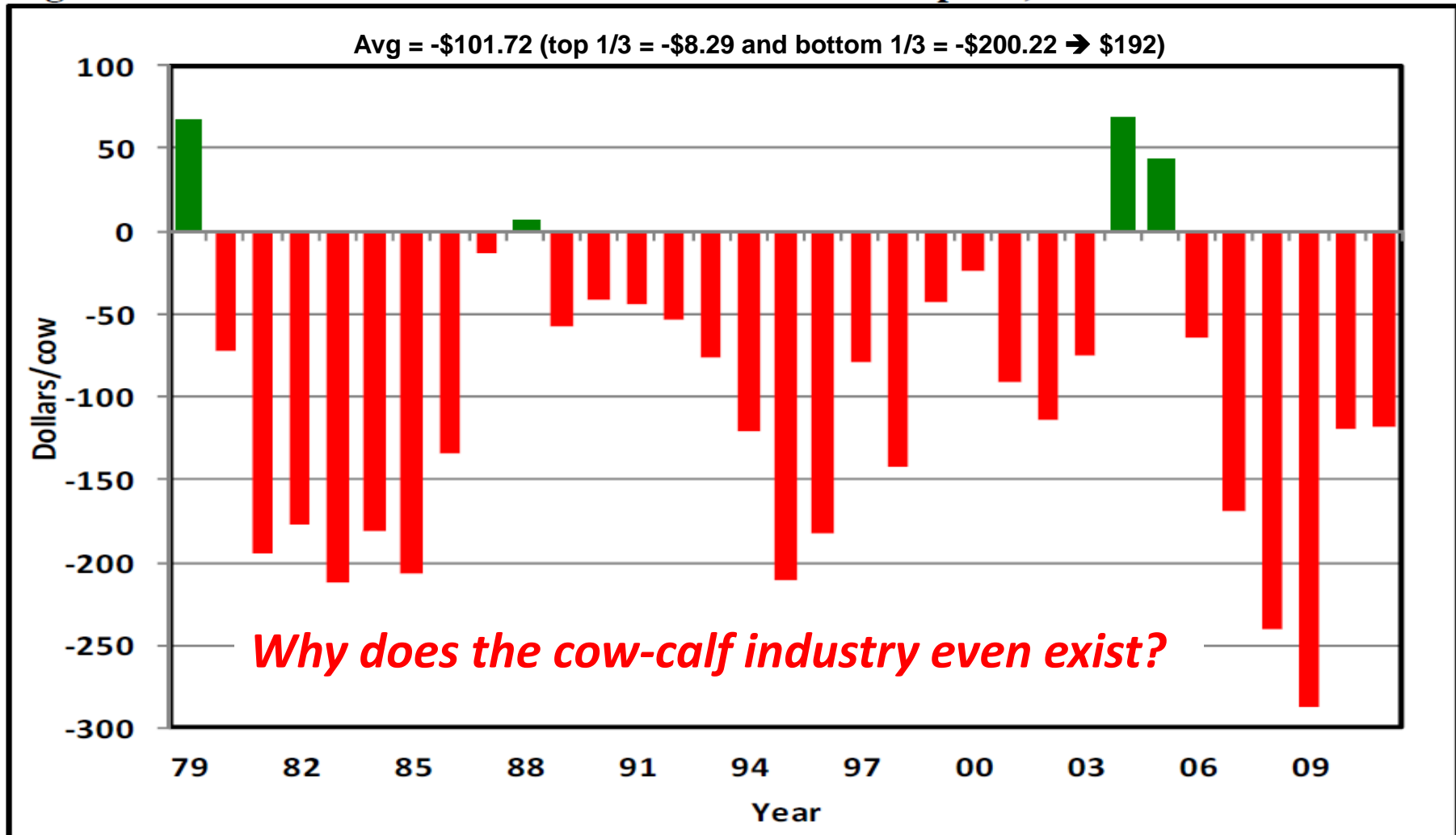
Kevin C. Dhuyvetter
Department of Agricultural Economics, Kansas State University
November 2012





KS average returns are highly variable over time...

Figure 2. Returns over Total Cost for Cow-calf Enterprise, 1979-2011



Source: Kansas Farm Management Association (KFMA) Annual Enterprise Analysis Reports

Financial importance of U.S. cow-calf operation...

Contributions to Income and Labor Input

Reason	Percent of Operations				All
	Herd Size (Number of Beef Cows)				
	1-49	50-99	100-199	200+	
Primary source of income	5.3	24.1	42.8	65.0	14.3
Supplemental source of income	78.0	68.3	50.9	31.7	71.9
Other	16.7	7.6	6.3	3.3	13.8

Source: USDA NASS APHIS, Beef 2007-08, NAHMS report.

An important characteristic of the U.S. beef cow-calf industry is that many participants are not motivated exclusively by profit from this enterprise ...

... and it shows in their management practices.

Castration					
	Herd Size (Number of Beef Cows)				
	1-49	50-99	100-199	200+	All
Operations that castrated any bull calves before sale					
Percent of operations	50.3	75.0	85.1	95.3	59.2

Implanting Calves with a Growth Promotant Prior to or at Weaning					
Implant Practice	Percent of Operations				
	Herd Size (Number of Beef Cows)				
	1-49	50-99	100-199	200+	All
Any calves	7.0	19.9	27.3	31.1	11.9
Heifers intended for replacement	2.1	6.7	9.7	9.8	3.8
Other calves (nonreplacement)	6.7	19.7	25.2	30.8	11.4

Source: USDA APHIS, Beef 2007-08, Part I: Reference of the Beef Cow-calf Management Practices in the United States, 2007-08



Returns are more variable across producers than across time and largely driven by costs differences...

Table 1. Beef Cow-calf Enterprise Returns over Total Costs, 2007-2011 (minimum of three years)*

	All Farms	Profit Category			Difference between High 1/3 and Low 1/3			
		High 1/3 Head / \$	Mid 1/3 Head / \$	Low 1/3 Head / \$	Absolute	%		
Number of Farms	91	30	31	30				
Labor allocated to livestock, %	37.6	49.9	31.0	32.0				
Number of Cows in Herd	145	191	151	92	98	107%		
Number of Calves Sold	131	173	137	83	90	109%		
Weight of Calves Sold	582	592	580	573	19	3%		
Calf Sales Price / Cwt	\$110.82	\$112.11	\$109.25	\$111.17	\$0.94	1%		
Gross Income	\$585.86	\$628.17	\$594.00	\$535.15	\$93.02	17%		
Feed	\$383.62	\$344.13	\$382.81	\$423.96	26%	-\$79.82	-19%	30.2%
Interest	\$125.94	\$106.16	\$127.77	\$143.85		-\$37.69	-26%	14.2%
Vet Medicine / Drugs	\$20.55	\$17.11	\$23.99	\$20.45		-\$3.34	-16%	1.3%
Livestock Marketing / Breeding	\$14.84	\$12.71	\$14.05	\$17.76		-\$5.05	-28%	1.9%
Depreciation	\$36.75	\$26.73	\$35.39	\$48.18		-\$21.45	-45%	8.1%
Machinery	\$79.70	\$58.47	\$82.30	\$98.25		-\$39.77	-40%	15.0%
Labor	\$120.90	\$102.83	\$99.82	\$160.74		-\$57.91	-36%	21.9%
Other	\$37.66	\$28.37	\$36.62	\$48.02	74%	-\$19.64	-41%	7.4%
Total Cost	\$819.96	\$696.52	\$802.74	\$961.20		-\$264.68	-28%	
Net Return to Management	-\$234.10	-\$68.35	-\$208.73	-\$426.05		\$357.70		

* Sorted by Net Return to Management (Returns over Total Costs) per Cow

Compared to \$192 between top and bottom third years.



KS cow-calf profitability drivers...

- Returns are more variable across producers at a point in time than they are on average over time
 - even in “hard times” some producers are profitable;
 - similarly, in “good times” some producers lose money...

Figure A4. Profit versus Total Cost (correlation = -0.81)

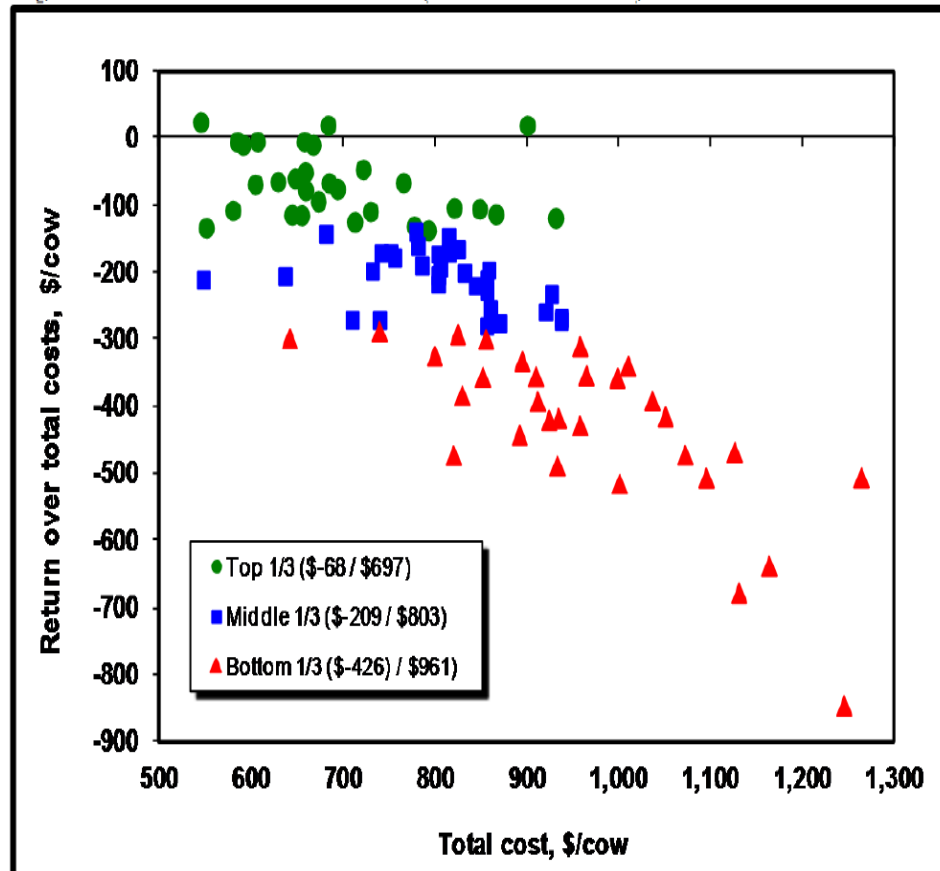
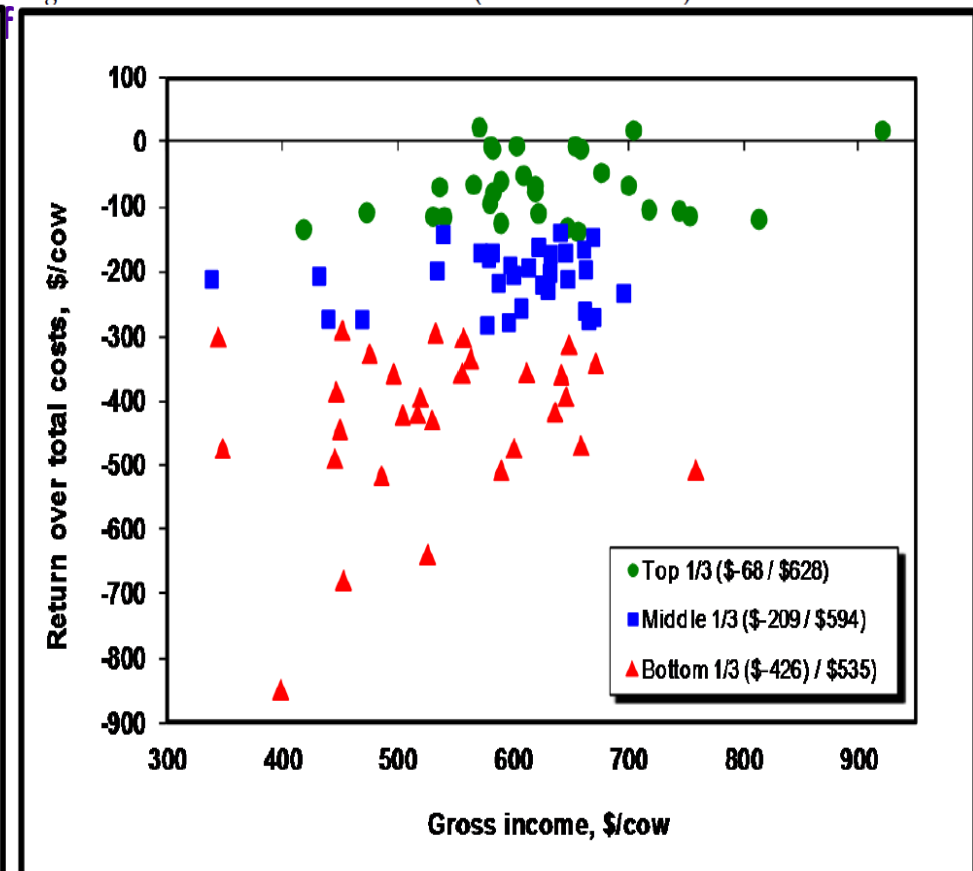


Figure A1. Profit versus Gross Income (correlation = 0.41)



USDA's longer-term projections (as of Feb. 2012) ...

http://www.ers.usda.gov/media/273343/oce121_2_.pdf

- **U.S. beef cow inventory:**
 - 29.8 million in 2012
 - 34.5 million in 2021 (+/- 1997 levels) / was 39.3 million in 1982
 - Beef Production (billion lbs) : 25.4 (1997), 26.2 (2011)
 - *More beef per cow will continue = less throughput in # head...*
- **Domestic per capita red meat & poultry consumption:**
 - 221 lbs in 04-07 (**Beef=65.7 lbs**; Pork=50.4 lbs; Poultry=103.8 lbs)
 - 198 lbs in 2013 (**Beef=51.3 lbs**; Pork=46.3 lbs; Poultry=98.5 lbs)
 - 213 lbs in 2021 (**Beef=58.7 lbs**; Pork=47.2 lbs; Poultry=105.8 lbs)
 - *These lower per capita volumes will be purchased with more consumer requests and hence requirements for industry-wide investment (& collaboration) in beef quality ...*

USDA's longer-term projections (as of Feb. 2012) ...

http://www.ers.usda.gov/media/273343/oce121_2_.pdf

- **“Developing World” Changes**
 - Increasing global \$, pop., & per capita meat cons.
 - **Africa & Middle East (4.4% GDP/yr)**
 - Arguably the least understood growth market...
 - **Latin America (4.2% GDP/yr)**
 - Growing producer & consumer...
 - **China (8.0% GDP/yr)**
 - Canada has access but US does not ...
 - **South Korea (3.7% GDP/yr – but 10x per capita inc. of China)**
 - US has access but Canada does not...

USDA's longer-term projections (as of Feb. 2012) ...

http://www.ers.usda.gov/media/273343/oce121_2_.pdf

- **“Developed World” Changes**
 - Declining global economic prevalence, populations, & per capita meat consumption
 - **US/Canada (2.5% GDP/yr)**
 - Different dependence on domestic consumption...
 - **Japan (1.0% GDP/yr):**
 - Major meat importer currently but will exporters care less going forward?
 - **Europe (1.9% GDP/yr):**
 - Will influential role as “food thought leader” persist?

Who will produce beef in the future?

Identify COP Differences ...

- An industry of +/- 750,000 operations is going to remain being very diverse...
- Differences within regions are significant
- Differences across regions are significant

Who will produce beef in the future?

Identify Fit with Broader Structural Changes...

- Increasing Variation Across Producers
- Role of “cattle cycle” is less pronounced today
- Excess Capacity: +(s.run) for cow-calf producers
- Moving, perhaps too slowly, away from “all beef is equal” systems...
 - Dropping % fed cattle sold via negotiated cash
 - Increasing role of premiums w/ eventual ties back to cow-calf producers...
 - *Make sure you aren't producing widgets nobody wants...*

U.S. Industry changes underway

- BEEF Magazine Poll (N=99 as of 8/17/11')
 - “If you had to liquidate cattle this year because of flooding or drought, what do you plan to do with the proceeds?”
 - 47% Restock with cows when conditions improve
 - 9% Restock but change production models (e.g., buy stockers rather than cows)
 - 27% Keep the cash; leave the business
 - 6% Reinvest the cash in another non-livestock ag enterprise
 - 10% Don't know
- Cow-Calf Expansion points:
 - Sales value of cull cows is about = for all; costs are NOT = for all...
 - Firms with higher costs, opportunities to row crop, etc. increasingly exit
 - Expansion will not come from those with higher costs and notable alternative opportunities...
 - ***Will proportion of U.S. herd North & West of KS grow ???***

Bigger Picture

Other Discussion Points

- MCOOL
 - Aggregate economic loss is apparent...
- Animal ID & Traceability
 - U.S. is falling behind key competing meat producing countries...
- Animal Welfare
 - Active USDA project & “social concern” topic here to stay...
- Complex relationship & views on technology:
 - Feed 9 billion, “control” prices, and do so in an “acceptable” manner is story...
 - Think about LFTB, antibiotics, GM-feedstuffs labeling, etc. ...
- *Issues vary in many facets BUT each raise uncertainty for industry stakeholders...*
 - *Raises expected return/cow needed to trigger expansion...*

Bottom-line Summary for Cow-Calf Producers

- “New normal” includes heightened uncertainty and volatility
 - Signals opportunity to many = expansion
 - Triggers discomfort to many = exit/status quo
 - within industry variations in views and comparative advantages will determine the ability to profit and shape future of industry...
- Industry is dynamic = “keep up or get out”
 - Export growth = reduced domestic per capita consumption, changing customer base ...
 - Increasing demand for “higher quality” for consumers worldwide to justify higher costs of consumed protein...

What To Do?

- What is your comparative advantage?
 - Having a favorable cost structure is imperative...
 - Increase herd?, Change focus?; Exit?
 - *How does regionally varying expansion (cow herd) &/or excess capacity resolution (feedlot and/or packer) influence your business?*
- I encourage you to:
 - Recognize this “isn’t your father’s world” anymore and manage accordingly...
 - “Think globally, manage locally, and stay informed”

More information available at:

<http://www.econ.iastate.edu/ifo/>

<http://www.extension.iastate.edu/agdm/>

<http://www.agmanager.info/>

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