Beef-Cattle Industry Issues:
Market Outlook, Decision Tools, and Economic Trends

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www.AgManager.info

KEEPCALVESHEALTHY

2014 South Dakota Beef Producer Meetings

Kadoka (Apr 29), Chamberlain (Apr 30), Aberdeen (May 1)

Two websites to note:

- ***www.AgManager.info***
- ***www.beefbasis.com***

Source: American News (aberdeennews.com) May 1, 2014

LMIC Beef Production and Price Quarterly Forecasts (4/11/14)

Sources: Livestock Slaughter - USDA/NASS; Steer Prices - USDA/AMS Livestock Market News; Projections and Forecasts by LMIC

Year Quarter	Comm'l Slaughter	% Chg. from Year Ago	Average Dressed Weight	% Chg. from Year Ago	Comm'l Beef Production	% Chg. from Year Ago
2013						
I	7,778	-3.1	793.5	1.4	6,172	-1.7
II	8,325	0.2	782.8	0.5	6,517	0.7
III	8,322	-0.1	794.1	0.5	6,609	0.4
IV	8,033	-3.0	799.2	0.7	6,420	-2.3
Year	32,458	-1.5	792.3	0.8	25,718	-0.8
2014						
I	7,370	-5.2	795.8	0.3	5,865	-5.0
II	7,719	-7.3	786.0	0.4	6,067	-6.9
III	7,765	-6.7	799.0	0.6	6,204	-6.1
IV	7,573	-5.7	802.6	0.4	6,078	-5.3
Year	30,427	-6.3	795.8	0.4	24,214	-5.8
2015						
I	7,049	-4.4	800.4	0.6	5,642	-3.8
II	7,390	-4.3	792.2	0.8	5,854	-3.5
III	7,459	-3.9	806.0	0.9	6,012	-3.1
IV	7,422	-2.0	806.3	0.5	5,984	-1.5
Year	29,320	-3.6	801.2	0.7	23,492	-3.0

LMIC Beef Production and Price Quarterly Forecasts (4/11/14)

Sources: Livestock Slaughter - USDA/NASS; Steer Prices - USDA/AMS Livestock Market News; Projections and Forecasts by LMIC

Year Quarter	Live Sltr. Steer Price 5-Mkt Avg	% Chg. from Year Ago	Feeder Steer Price Southern Plains 7-800#	Feeder Steer Price Southern Plains 5-600#
2013				
I	125.51	0.2	142.41	170.13
II	124.95	3.3	137.34	159.71
III	122.30	2.2	155.95	171.19
IV	130.77	4.2	167.04	187.56
Year	125.88	2.5	150.69	172.15
2014				
I	146.34	16.6	171.77	209.30
II	140-142	12.8	173-175	214-218
III	136-139	12.4	175-179	207-212
IV	139-143	7.8	171-176	203-209
Year	140-142	12.0	172-176	206-214
2015				
I	143-148	-0.6	173-179	208-215
II	144-150	4.3	175-182	214-222
III	140-147	4.4	177-185	207-217
IV	142-150	3.5	173-183	201-213
Year	143-148	3.2	175-182	206-218

Cow-Calf Sector

www.beefbasis.com – Many locations, including 6 in South Dakota

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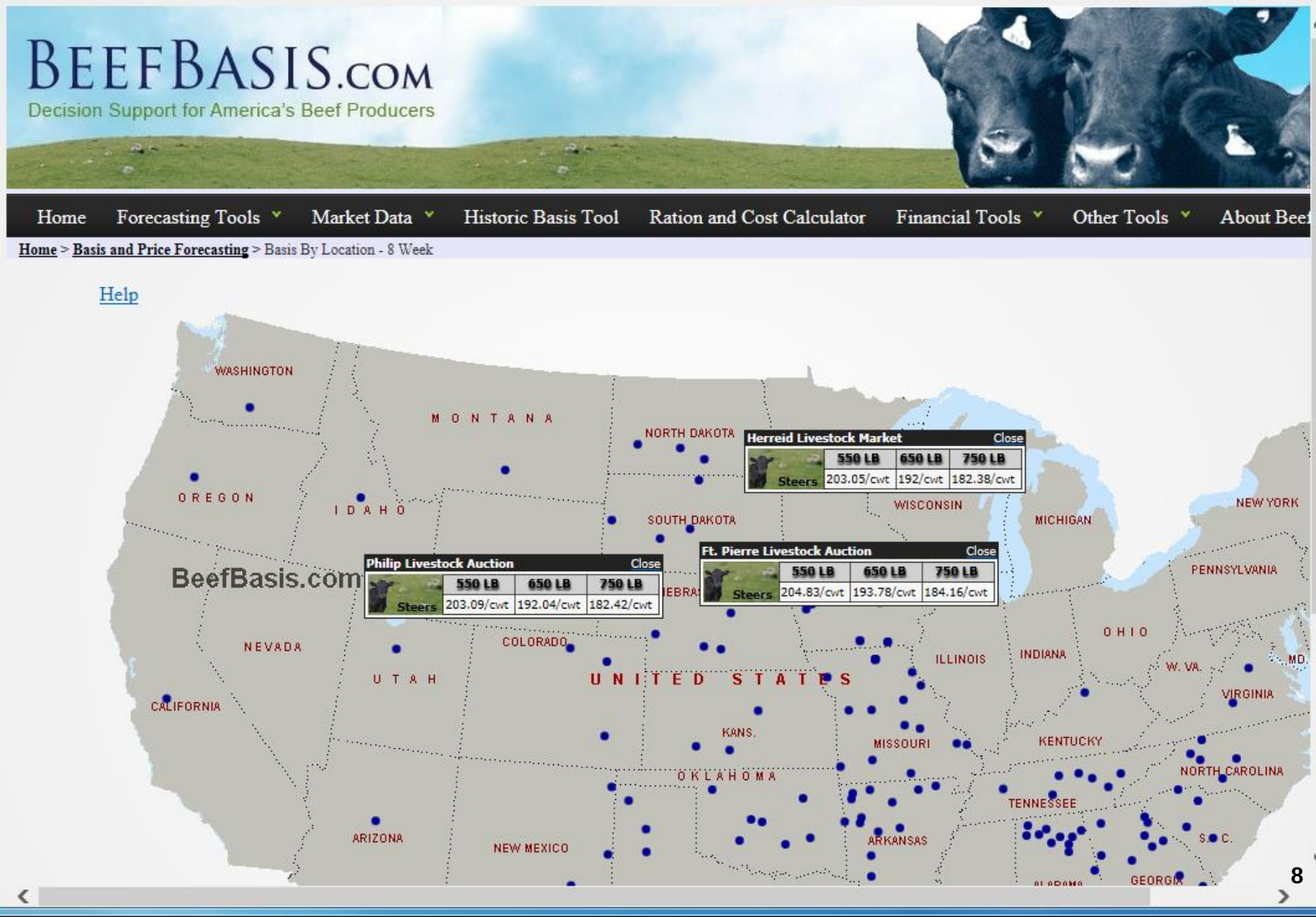

www.beefbasis.com – Projected local feeder cattle basis/price (4/24/14)

File Edit

BEEFBASIS.COM
Decision Support for America's Beef Producers

Home | Forecasting Tools | Market Data | Historic Basis Tool | Ration and Cost Calculator | Financial Tools | Other Tools | About BeefBasis

Home > Basis and Price Forecasting

Feeder Cattle Basis Forecast

State: South Dakota	Location: Philip Livestock Auction	Expected Sale Date: 5/2/2014
Sex: Steer	Frame: Lg & Med/Lg	Grade: 1
Weight: 700 lbs/head	Head: 100	
Feeder Cattle Futures Price: 179.6 $/cwt		Corn Futures Price: 5.07 $/bu
Reference Contract: May 2014 Transaction Date: Apr 24, 2014		*Reference Contract: Jul 2014 Transaction Date: Apr 24, 2014*

May 2014

Sun	Mon	Tue	Wed	Thu	Fri	Sat
27	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	2	3	4	5	6	7

Display Horizontal | Display Vertical | RUN

Model-Estimated Feeder Cattle Basis Values[1]	Feeder Cattle Basis Results	LRP Cattle Basis Results[6]
Model-estimated feeder cattle basis, $/cwt [2]	4.92	8.81
Confidence interval for basis, $/cwt[3]	1.19 to 8.66	5.22 to 12.40
Expected cash price, $/cwt	184.52	188.41
Confidence interval for expected cash price, $/cwt[3]	180.79 to 188.26	184.82 to 192.00
Optimal hedge ratio[4]	0.9626	N/A
Number of calves hedged per contract[5]	74	N/A

Feeder Cattle Basis Model | *LRP Cattle Basis Model*

www.beefbasis.com – Projected local feeder cattle basis/price (4/24/14)

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Feeder Cattle Basis Forecast

State: South Dakota	**Location:** Ft. Pierre Livestock Auction	**Expected Sale Date: 5/2/2014**
Sex: Steer	**Frame:** Lg & Med/Lg	**Grade:** 1
Weight: 700 lbs/head	**Head:** 100	
Feeder Cattle Futures Price: 179.6 $/cwt		**Corn Futures Price:** 5.07 $/bu
Reference Contract: May 2014 Transaction Date: Apr 24, 2014		*Reference Contract: Jul 2014 Transaction Date: Apr 24, 2014*

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Display Horizontal | Display Vertical | RUN

Model-Estimated Feeder Cattle Basis Values[1]	Feeder Cattle Basis Results	LRP Cattle Basis Results[6]
Model-estimated feeder cattle basis, $/cwt [2]	6.66	10.49
Confidence interval for basis, $/cwt[3]	2.92 to 10.39	6.90 to 14.07
Expected cash price, $/cwt	186.26	190.09
Confidence interval for expected cash price, $/cwt[3]	182.52 to 189.99	186.50 to 193.67
Optimal hedge ratio[4]	0.9626	N/A
Number of calves hedged per contract[5]	74	N/A

Feeder Cattle Basis Model | *LRP Cattle Basis Model*

www.beefbasis.com – Projected local feeder cattle basis/price (4/24/14)

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Home > Basis and Price Forecasting

Feeder Cattle Basis Forecast

State: South Dakota	**Location:** Herreid Livestock Market	**Expected Sale Date: 5/2/2014**
Sex: Steer	**Frame:** Lg & Med/Lg	**Grade:** 1
Weight: 700 lbs/head	**Head:** 100	
Feeder Cattle Futures Price: 179.6 $/cwt		**Corn Futures Price:** 5.07 $/bu
Reference Contract: May 2014 Transaction Date: Apr 24, 2014		*Reference Contract: Jul 2014 Transaction Date: Apr 24, 2014*

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25	26	27	28	29	30	31
1	2	3	4	5	6	7

Display Horizontal | Display Vertical | RUN

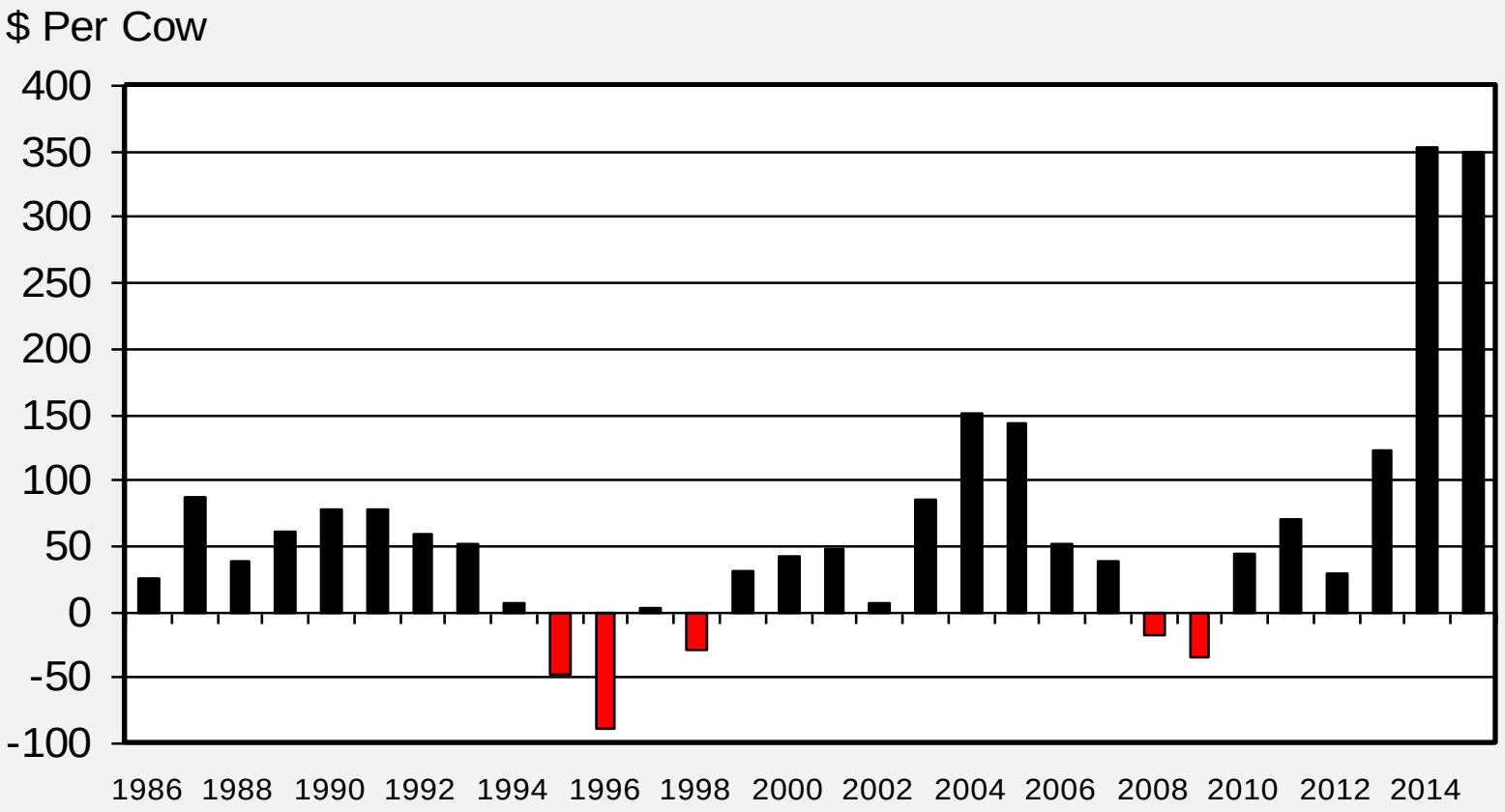
Model-Estimated Feeder Cattle Basis Values[1]	Feeder Cattle Basis Results	LRP Cattle Basis Results[6]
Model-estimated feeder cattle basis, $/cwt [2]	4.88	8.79
Confidence interval for basis, $/cwt[3]	1.14 to 8.61	5.20 to 12.37
Expected cash price, $/cwt	184.48	188.39
Confidence interval for expected cash price, $/cwt[3]	180.74 to 188.21	184.80 to 191.97
Optimal hedge ratio[4]	0.9626	N/A
Number of calves hedged per contract[5]	74	N/A

Feeder Cattle Basis Model | *LRP Cattle Basis Model*

Historically high 2014-2015 cow-calf return projections…

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
02/25/14

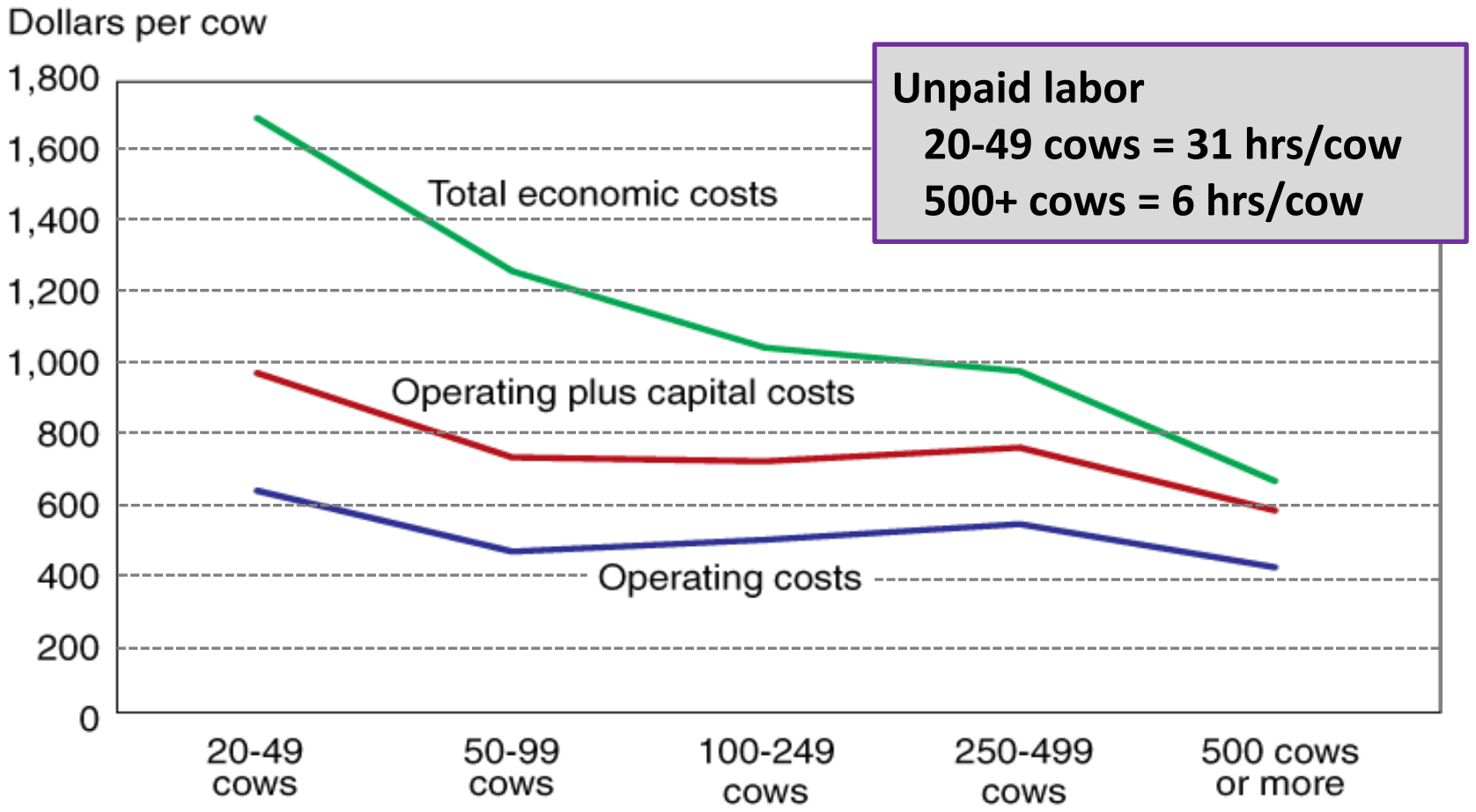
Annual cost per cow…

What would you estimate your total annual cost per cow is (excluding depreciation and interest on cow)?

Economies of size exist in beef cow-calf industry

Beef cow-calf cost of production per cow by size, 2008

Economies of size are apparent in beef cow-calf production, particularly for total economic costs.

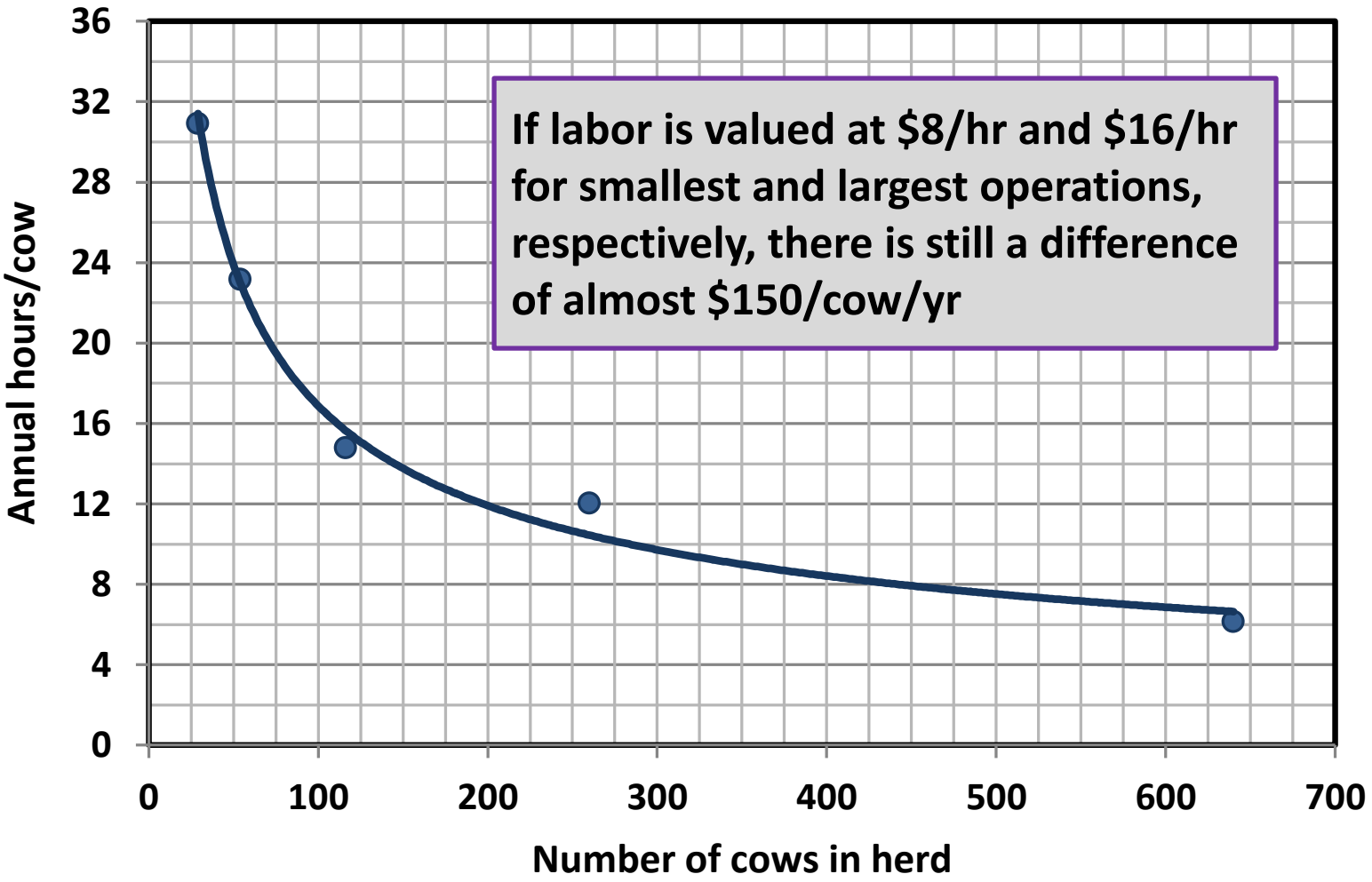


Notes: Production cost estimates for operations with less than 20 beef cows are not available because the ARMS sample is limited to operations with 20 or more beef cows. The number of cows refers to the peak number on the operation at any time during 2008.

Source: USDA, Economic Research Service using USDA's 2008 Agricultural Resource Management Survey (ARMS).

Even if labor is valued differently, it has big impact…

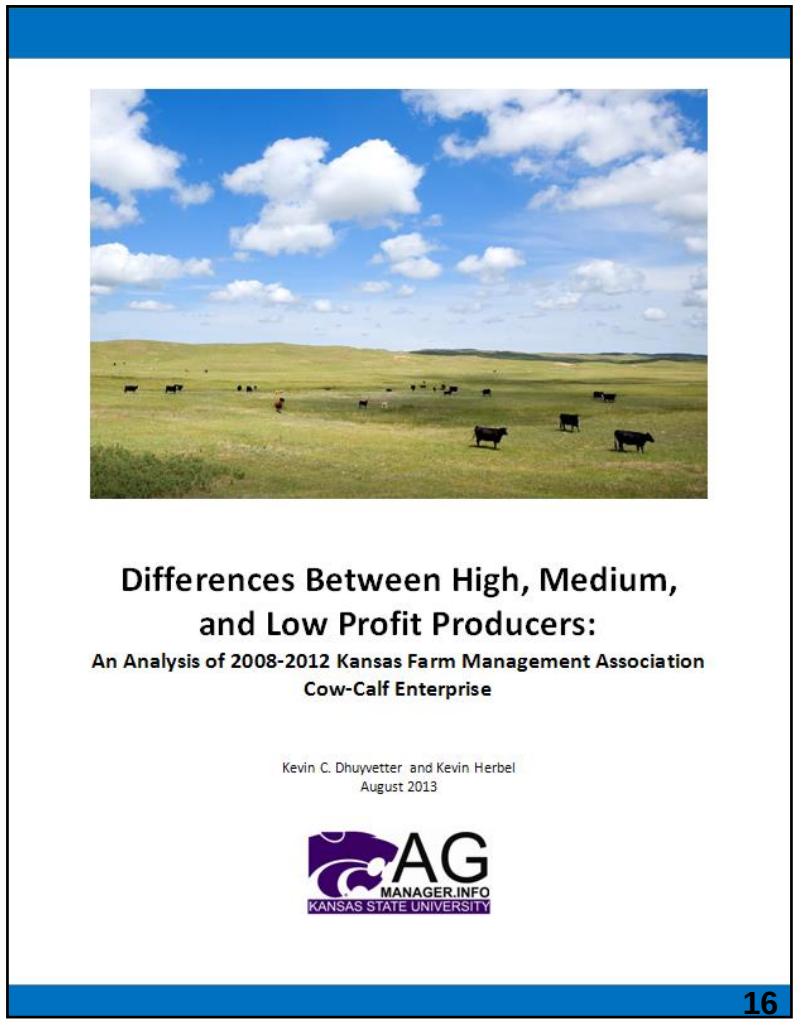
Estimated labor requirements for beef cowherds



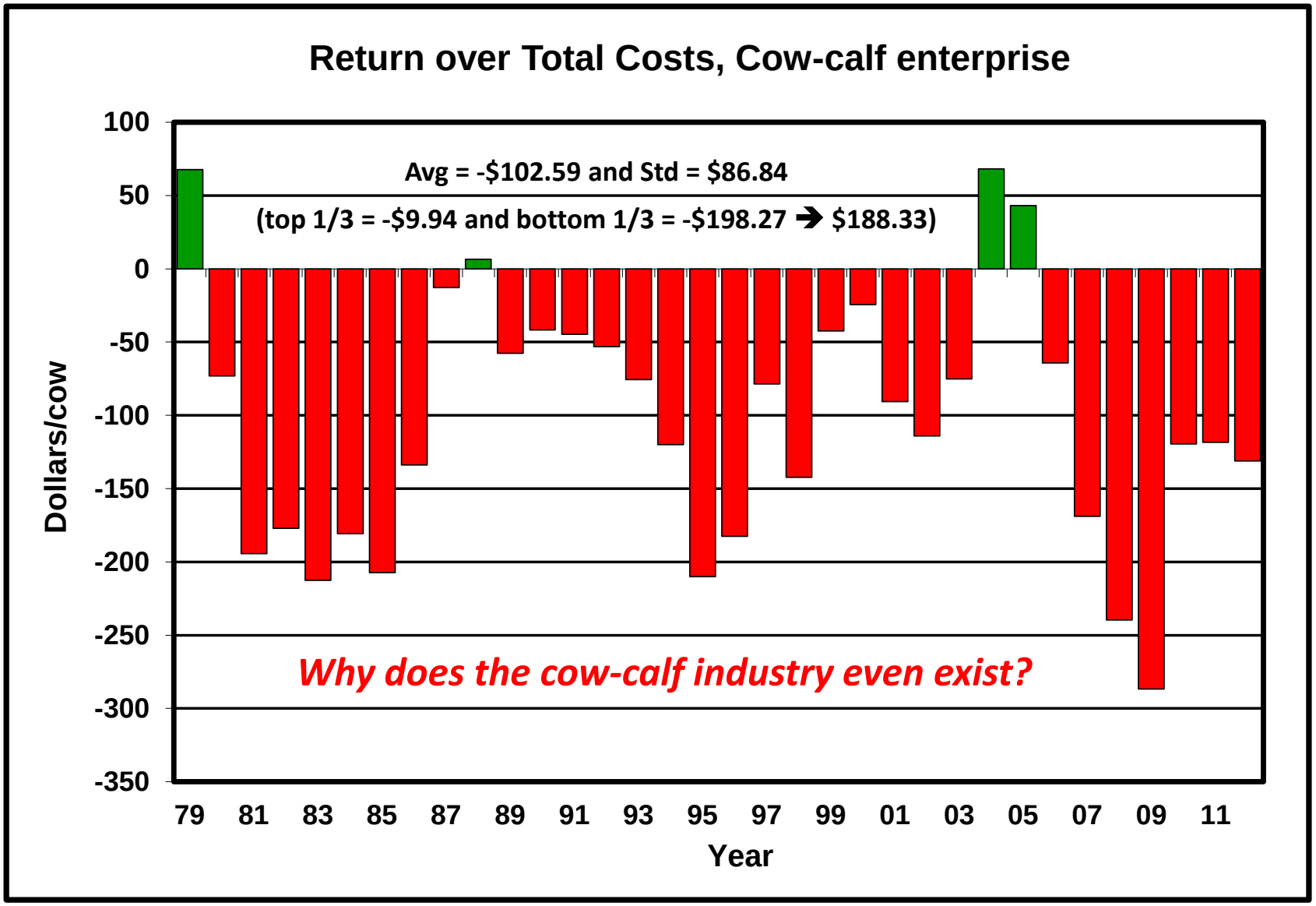
Source: USDA ERS, EIB #73, McBride and Mathews, March 2011 and Kansas State University

Cow-calf profitability drivers…

- **Analysis of KFMA cow-calf enterprise analysis returns**
  - **1979-2012 all operations (examine time effect)**
  - **2008-2012 operations with at least three years of data (examine producer effect)**
- **Paper available on web (www.agmanager.info)**



Average returns are ***highly variable over time***…



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

Variability over time versus variability across producers…

The difference in average returns across time (best 1/3 vs. worst 1/3 years) is ~$200 per head, what is the difference between the top 1/3 and bottom 1/3 of producers at a point in time?

Returns are ***more variable across producers***…

Beef Cow-calf Enterprise, 2008-2012 (min of 3 years)*

		Profit Category		
	All Farms	High 1/3 Head / $	Low 1/3 Head / $	High - Low Difference
Labor allocated to livestock, %	36.3	39.8	30.6	
Number of Cows in Herd	139	178	87	91
Weight of Calves Sold	585	600	579	21
Calf Sales Price / Cwt	$116.50	$116.49	$115.93	$0.56
Gross Income	**$635.12**	**$674.58**	**$582.69**	**$91.89**
Feed	$395.17	$346.98	$442.67	-$95.68
Other	$76.37	$58.67	$91.97	-$33.30
Machinery	$83.63	$58.06	$110.19	-$52.13
Labor	$126.42	$109.04	$162.67	-$53.63
Dep and int	$168.68	$133.77	$203.45	-$69.68
Total Cost	**$850.27**	**$706.52**	**$1,010.95**	**-$304.43**
Net Return to Management	**-$215.16**	**-$31.94**	**-$428.26**	**$396.32**

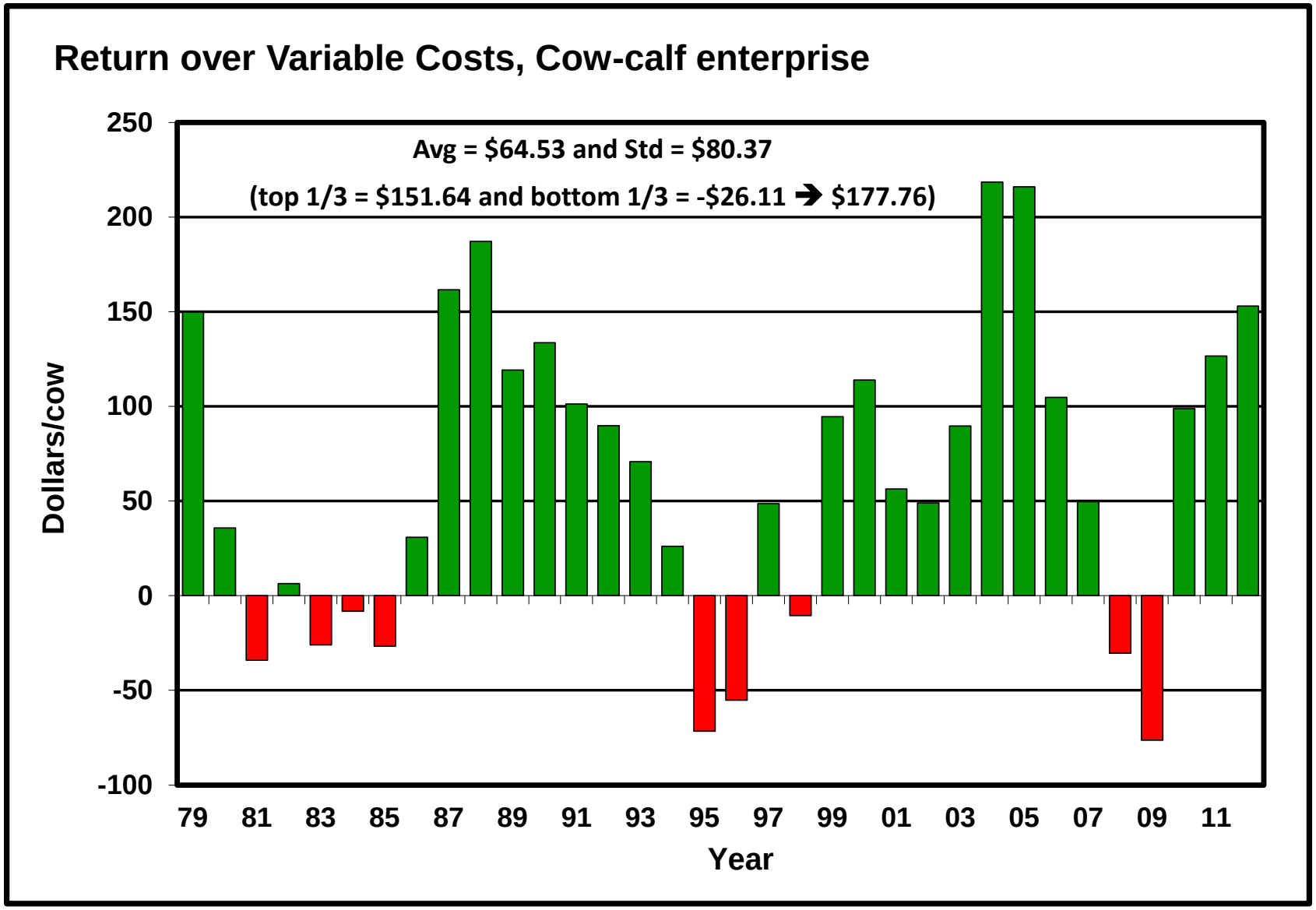
23.2%

76.8%

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

Compared to $188 between top and bottom third years.

Similar variability with returns over VC…



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

Returns over VC are slightly less variable…

Beef Cow-calf Enterprise, 2008-2012 (min of 3 years)*

	All Farms	Profit Category: High 1/3 Head / $	Profit Category: Low 1/3 Head / $	High - Low Difference	
Labor allocated to livestock, %	36.3	36.9	31.1		
Number of Cows in Herd	139	126	116	10	
Weight of Calves Sold	585	601	572	29	
Calf Sales Price / Cwt	$116.50	$118.24	$114.54	$3.70	
Gross Income	**$635.12**	**$700.96**	**$574.99**	**$125.97**	40.9%
Feed	$395.17	$359.60	$435.64	-$76.04	
Other	$76.37	$63.09	$92.93	-$29.84	
Machinery	$83.63	$63.16	$113.18	-$50.01	
Labor	$13.05	$10.47	$16.65	-$6.17	
Dep and int	$26.51	$16.17	$35.79	-$19.63	
Total Cost	**$594.73**	**$512.49**	**$694.19**	**-$181.69**	59.1%
Net Return to Management	**$40.39**	**$188.47**	**-$119.20**	**$307.66**	

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

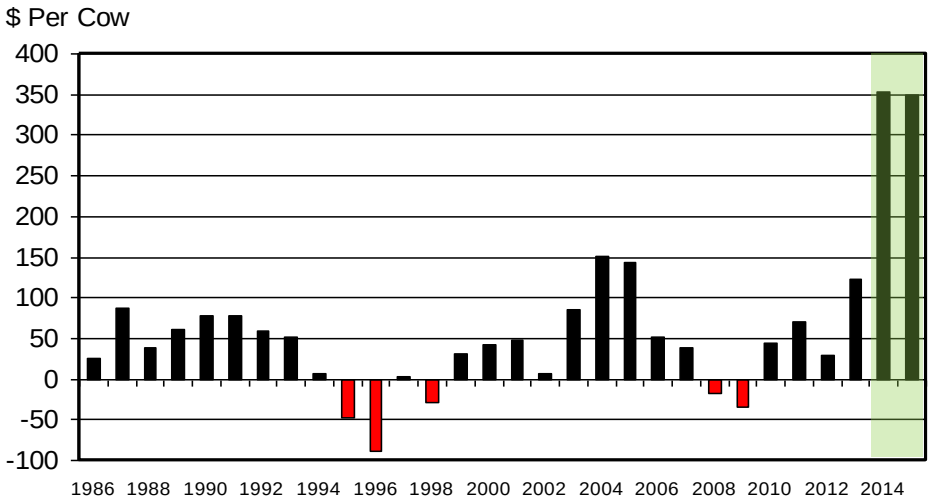
Compared to $178 between top and bottom third years.

Cowherd expansion?

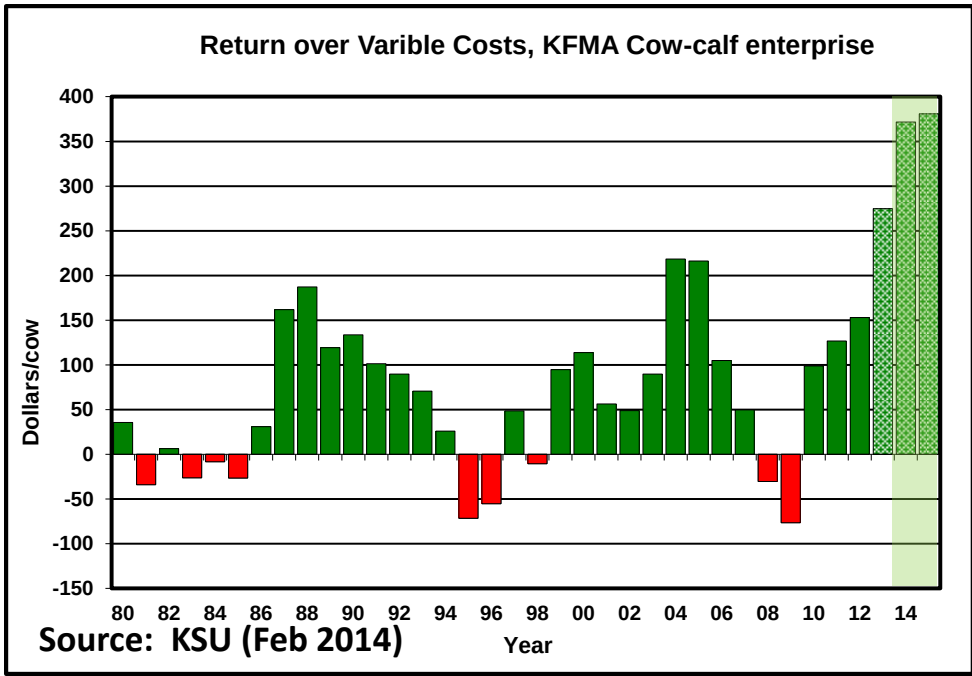
Projected returns for 2014 & 2015 are very favorable…

ESTIMATED AVERAGE COW CALF RETURNS

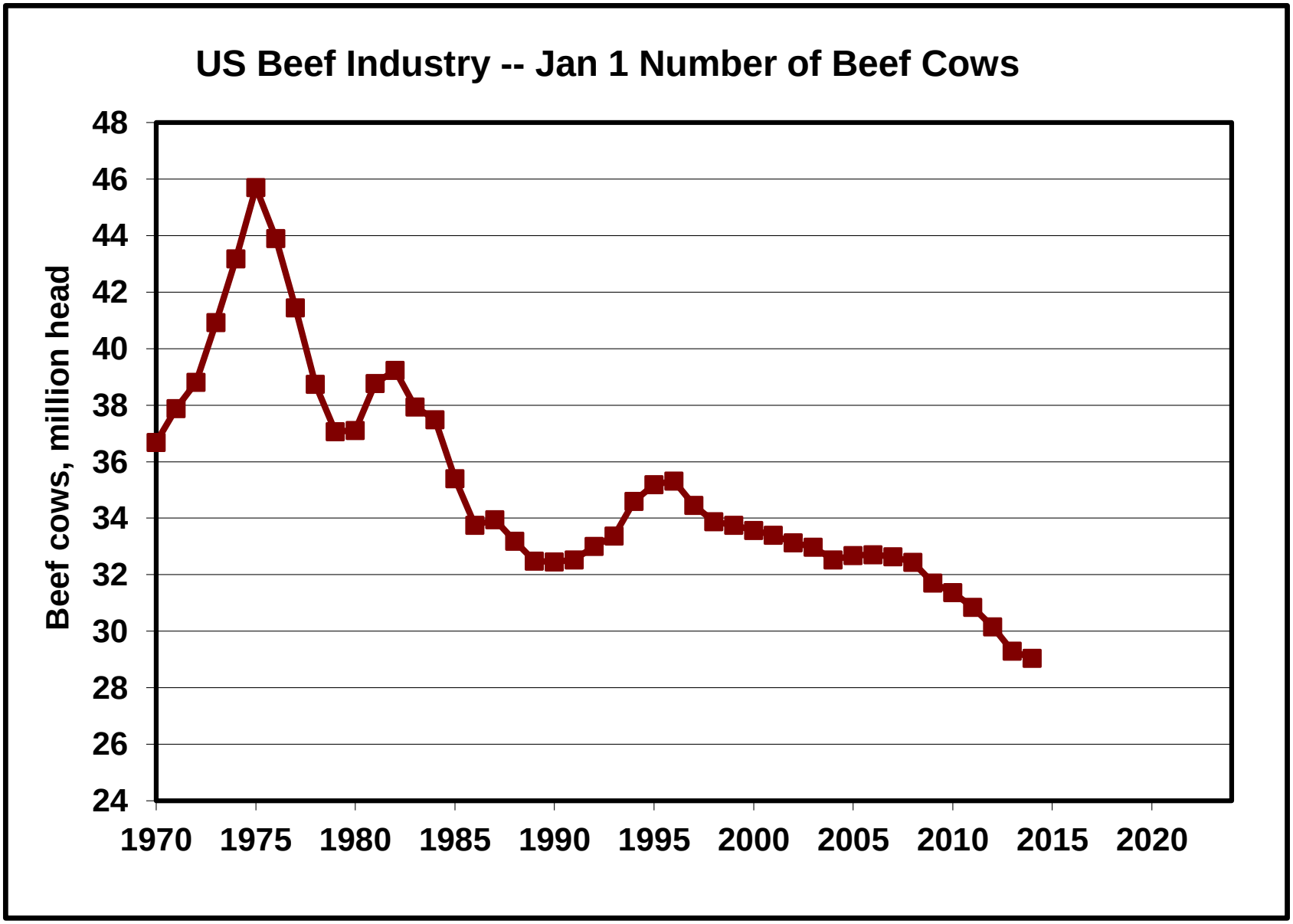
Returns Over Cash Cost (Includes Pasture Rent), Annual



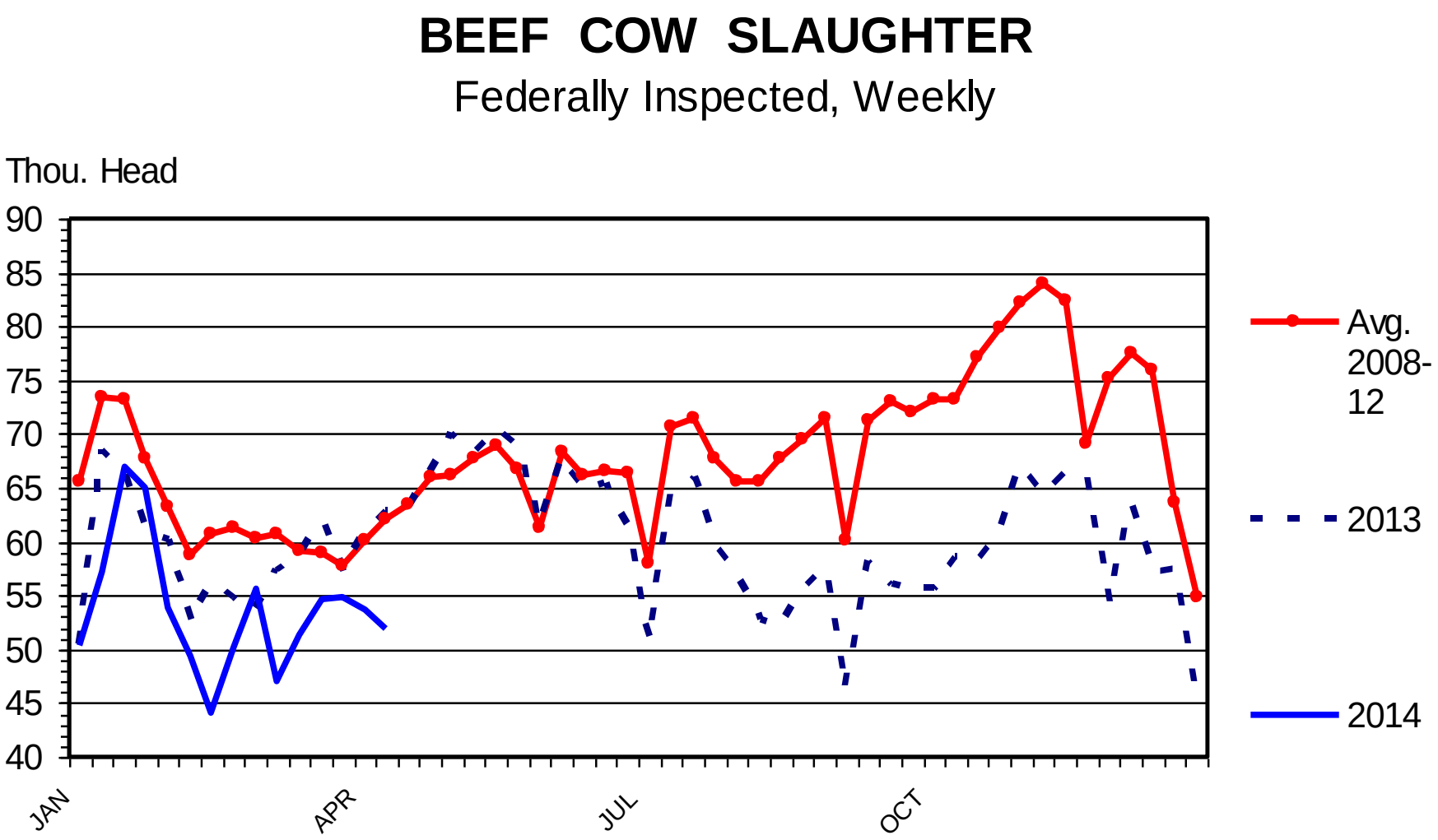
Source: LMIC (2/25/14)



Where will cow numbers go from current levels?



Cow slaughter is reflecting profit projections…

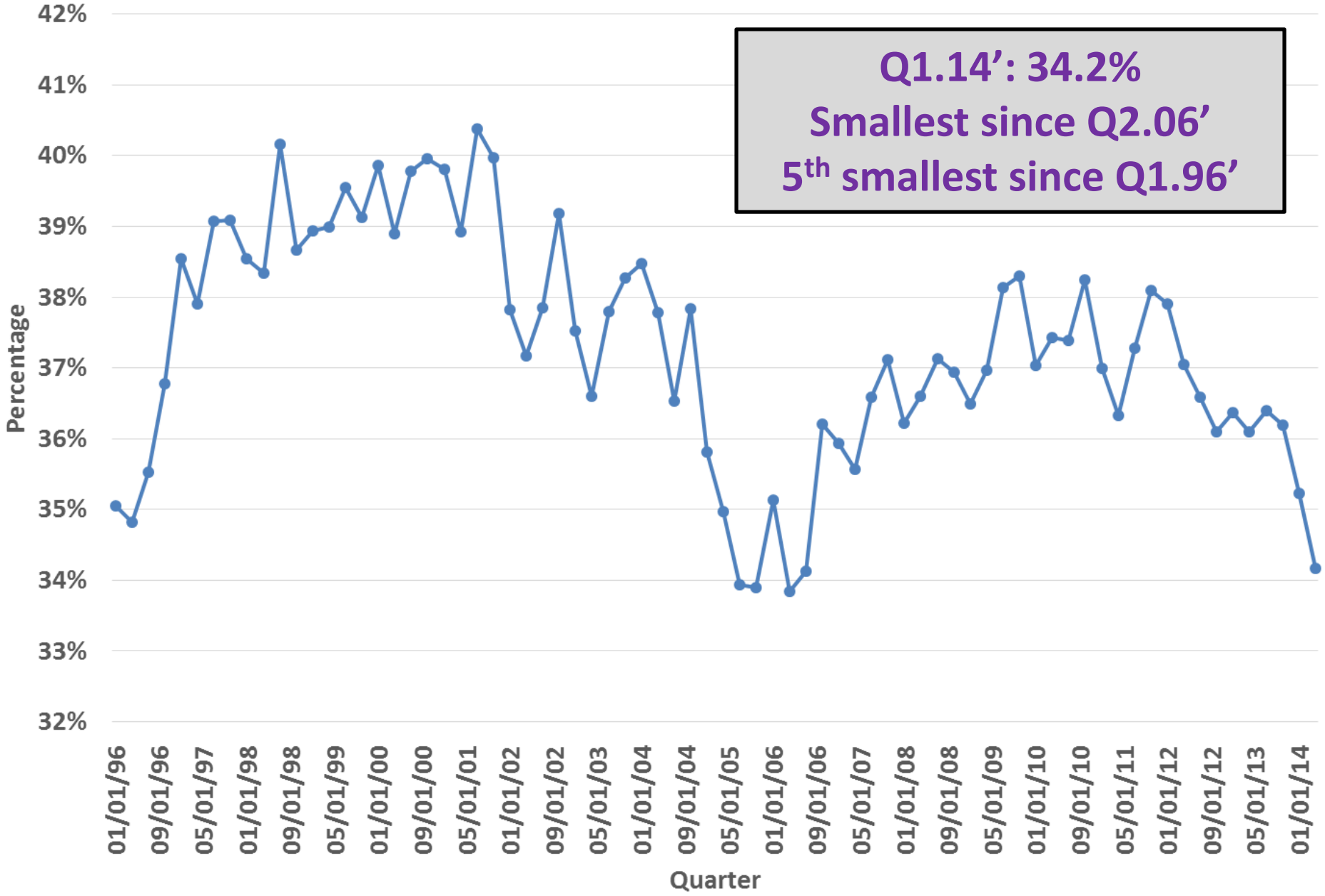


Livestock Marketing Information Center

Data Source: USDA-AMS & USDA-NASS

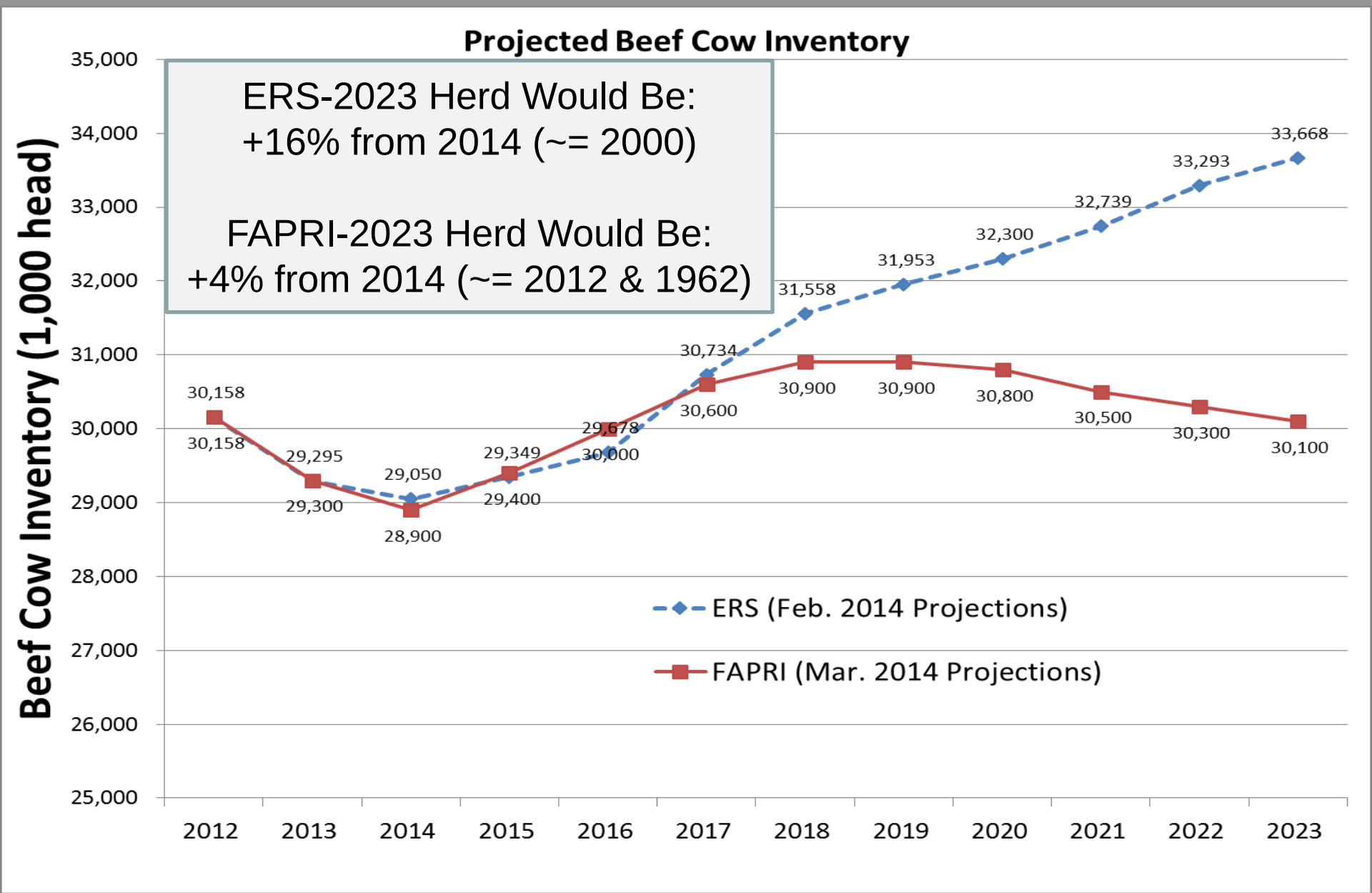
C-S-34
04/25/14

Heifer as % of Total Placements on Feed, Quarterly COF Report

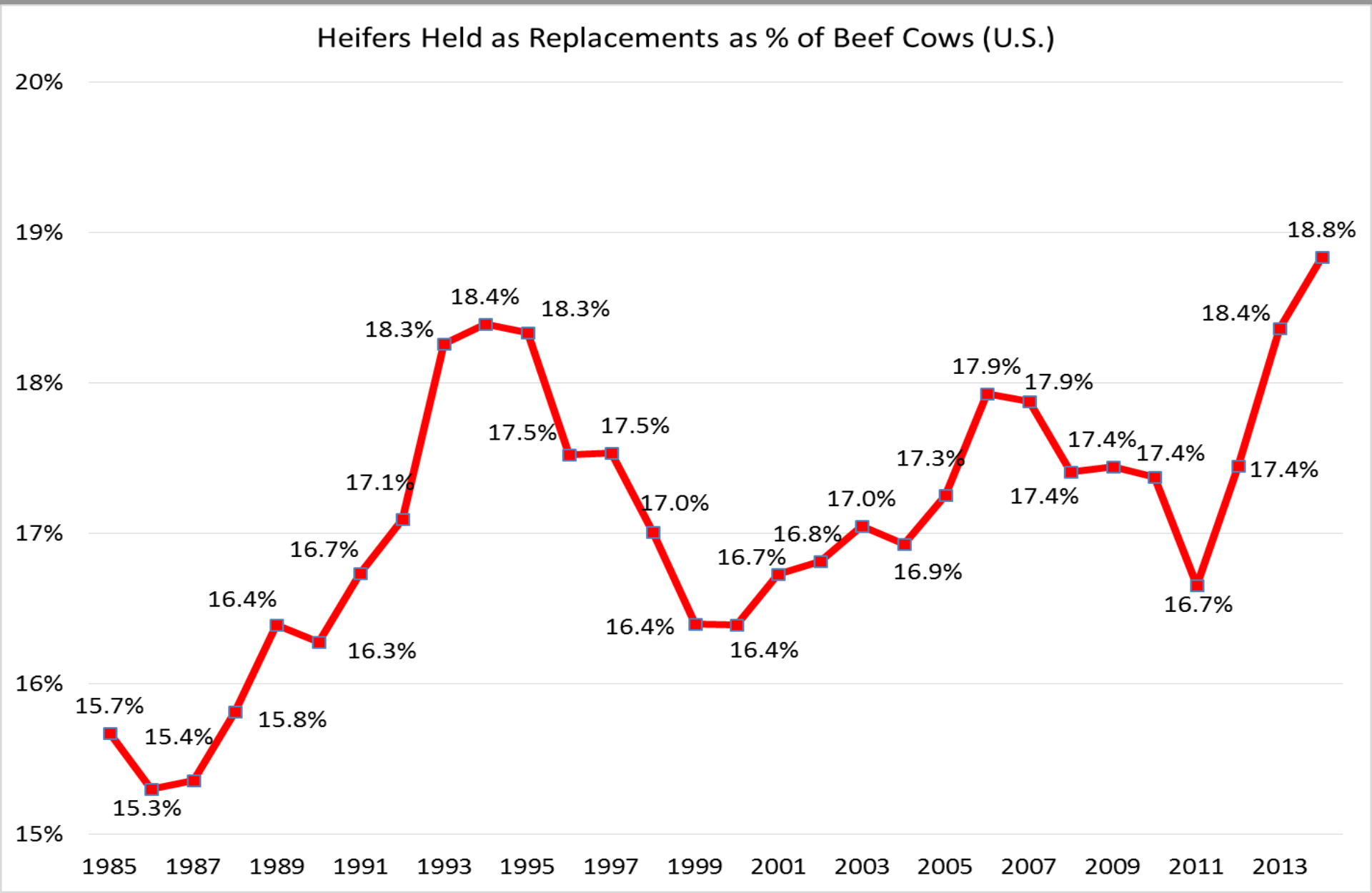


ERS & FAPRI Herd Projections

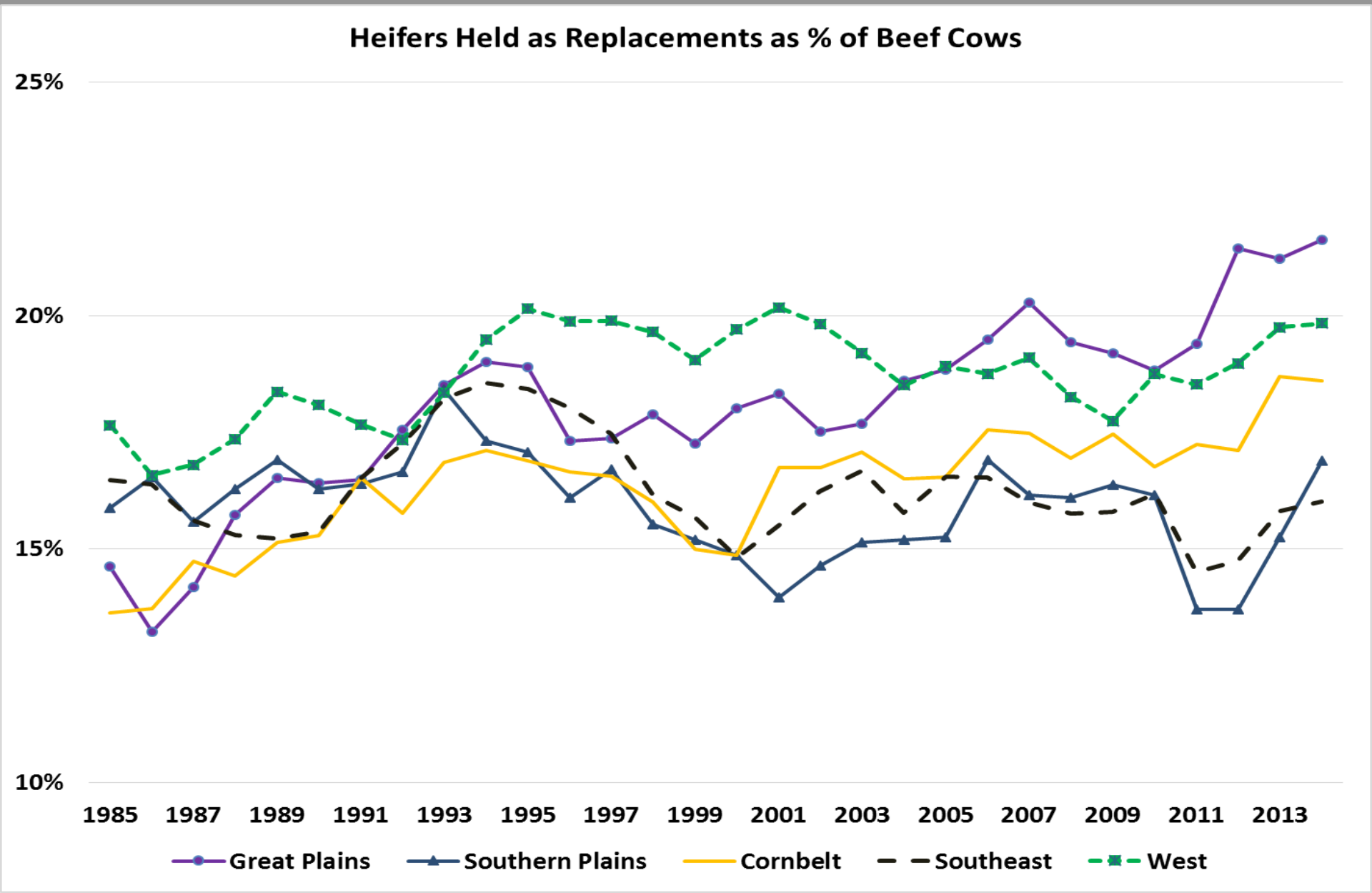
http://www.ers.usda.gov/publications/oce-usda-agricultural-projections.aspx
http://www.fapri.missouri.edu/outreach/publications/2014/FAPRI_MU_Report_02_14.pdf



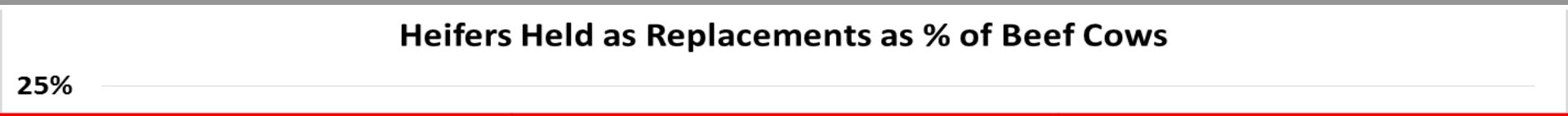
Heifer Retention Patterns



Heifer Retention Patterns

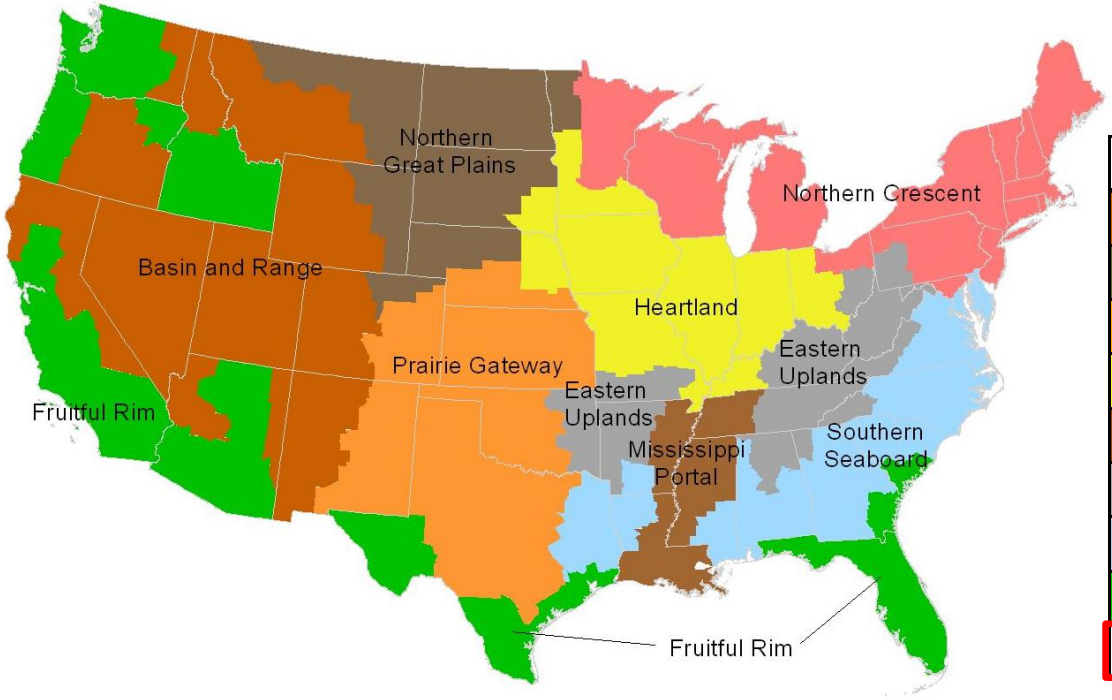


Heifer Retention Patterns



2014 (%):	**2006 (%):**	**1994 (%):**
1. Great Plains (21.6%)	1. Great Plains (19.5%)	1. West (19.5%)
2. West (19.8%)	2. West (18.8%)	2. Great Plains (19.0%)
3. Cornbelt (18.6%)	3. Cornbelt (17.6%)	3. Southeast (18.6%)
4. S. Plains (16.9%)	4. S. Plains (16.9%)	4. S. Plains (17.4%)
5. Southeast (16.0%)	5. Southeast (16.5%)	5. Cornbelt (17.1%)
U.S. = 18.9%	U.S. = 17.9%	U.S. = 18.4%
SD = 20.2%	SD = 17.2%	SD = 17.5%

Value of production (VOP) vs. Operating cost by region…



2008-2012 average values/cow

Region	VOP	Op cost	Return
Basin and Range	$586	$479	$108
Northern Great Plains	$637	$638	-$1
Prairie Gateway	$574	$528	$47
Heartland	$605	$720	-$115
Mississippi Portal	$393	$395	-$2
Eastern Uplands	$451	$478	-$27
Southern Seaboard	$455	$450	$5
Fruitful Rim	$446	$355	$91
Range across regions	$244	$365	$223

More variability in costs across regions than in income.

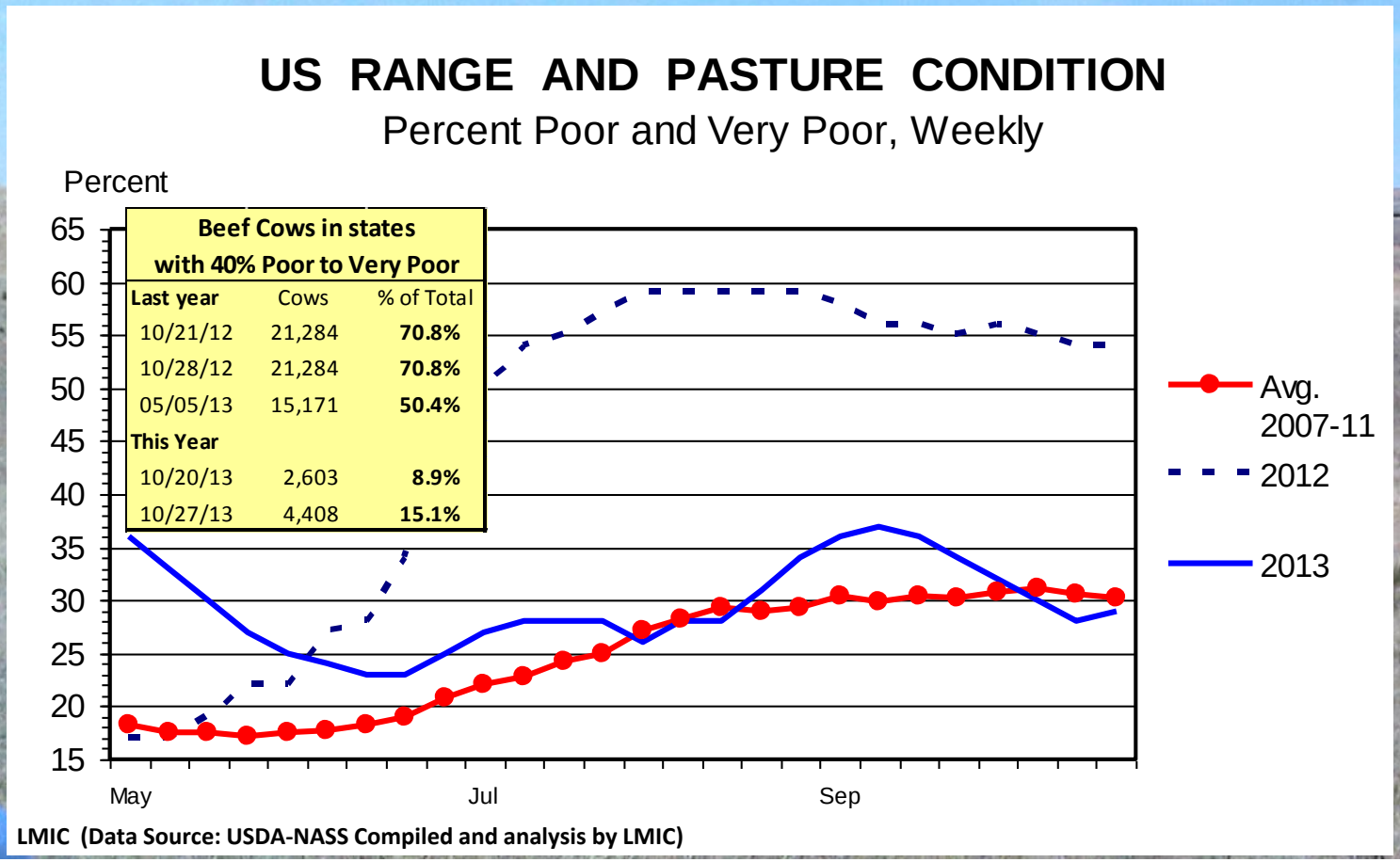
Do some regions have a comparative advantage for expansion?

Source: USDA ERS
http://www.ers.usda.gov/data-products/commodity-costs-and-returns.aspx

Why *not* expand?

While pastures have improved in many areas, there are still some regions that can't really support expansion…

Regional expansion will be driven more by resources available (i.e., forage) than anything else most likely…



Beef Cows in states with 40% Poor to Very Poor		
Last year	Cows	% of Total
10/21/12	21,284	**70.8%**
10/28/12	21,284	**70.8%**
05/05/13	15,171	**50.4%**
This Year		
10/20/13	2,603	**8.9%**
10/27/13	4,408	**15.1%**

LMIC (Data Source: USDA-NASS Compiled and analysis by LMIC)

Why *not* expand?

Not everyone wants to expand even with good forage & moisture conditions locally…

- **"Bird in hand vs two in the bush"**
- **Higher cost/cow**
  - **ERS Total Costs: '02: $974; '08: $1,121; '12: $1,317/cow**
- **More volatile input & output price environment**
- **Broader uncertainty**
  - **Political, social license on production, etc.**

Stocker/Backgrounding Sector

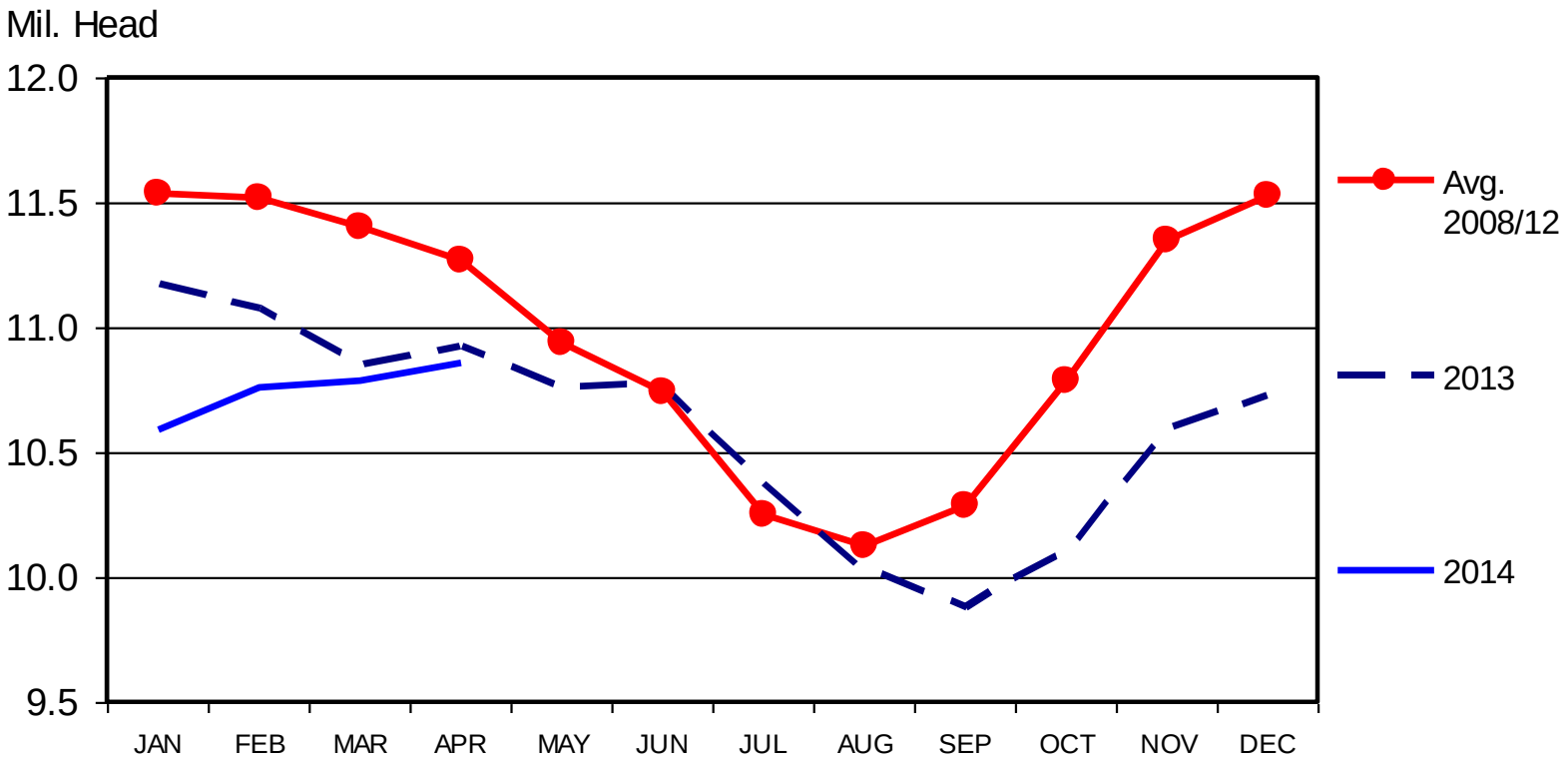
- **Herreid, SD Auction 5/1/14 situation (http://www.beefbasis.com/VOG.aspx):**
  - **Buy 700 lb steer on 5/2/14 ($185.89)**
  - **Sell 725 lb steer on 5/16/14 ($183.32) {1.67 ADG}**
    - **VOG: $111.37/cwt**
  - **Buy 550 lb steer on 9/19/14 ($202.37)**
  - **Sell 750 lb steer on 12/24/14 ($181.30) {2.06 ADG}**
    - **VOG: $123.39/cwt**

Feedlot Sector

April 1st: -1% vs. Pre-report Exp: +0.4%

CATTLE ON FEED

US Total, Monthly



C-N-10
04/25/14

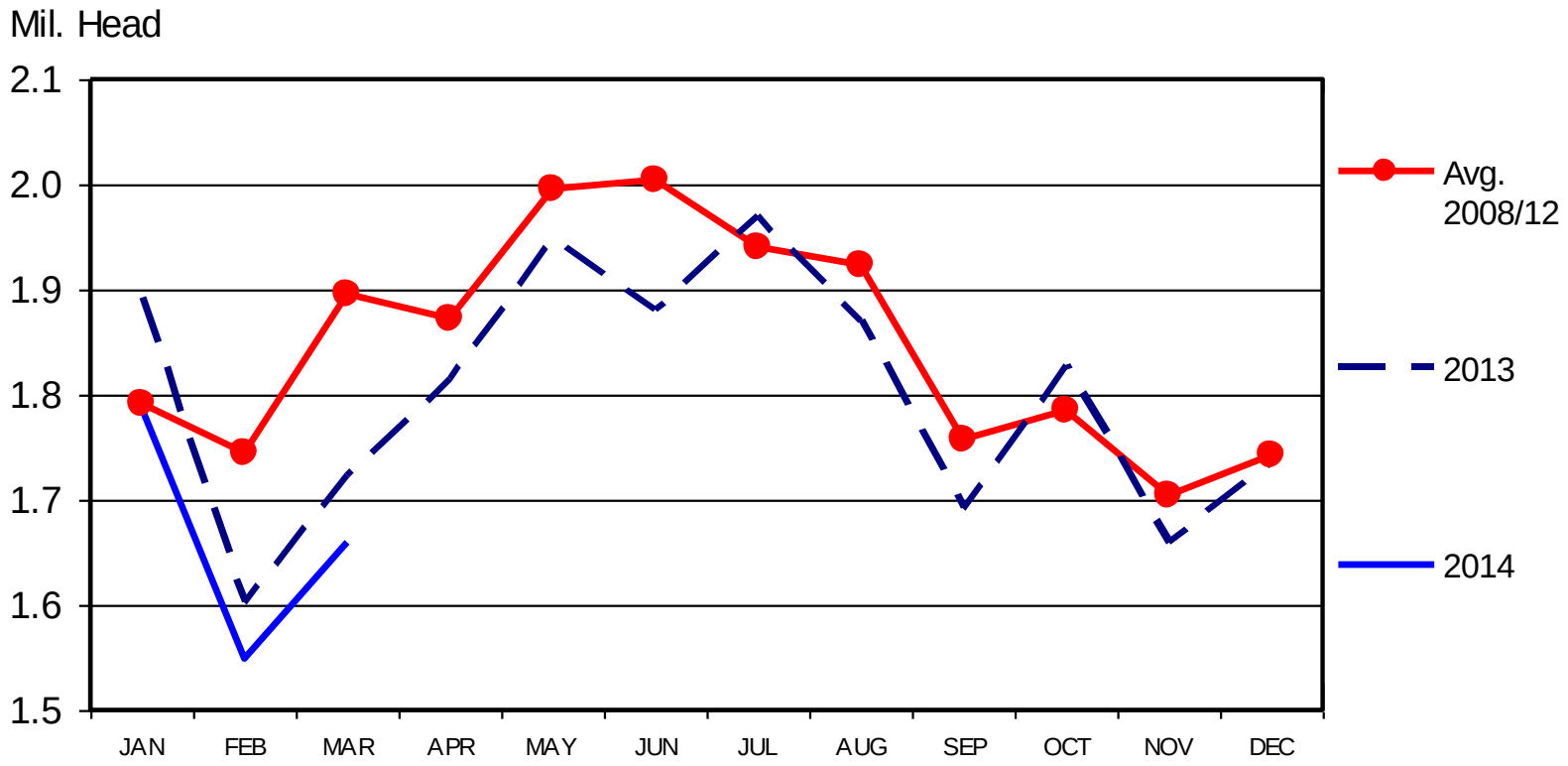
Livestock Marketing Information Center

Data Source: USDA-NASS

March: -4% vs. Pre-report Exp: -3.5%

FED CATTLE MARKETINGS

US Total, Monthly



C-M-11
04/25/14

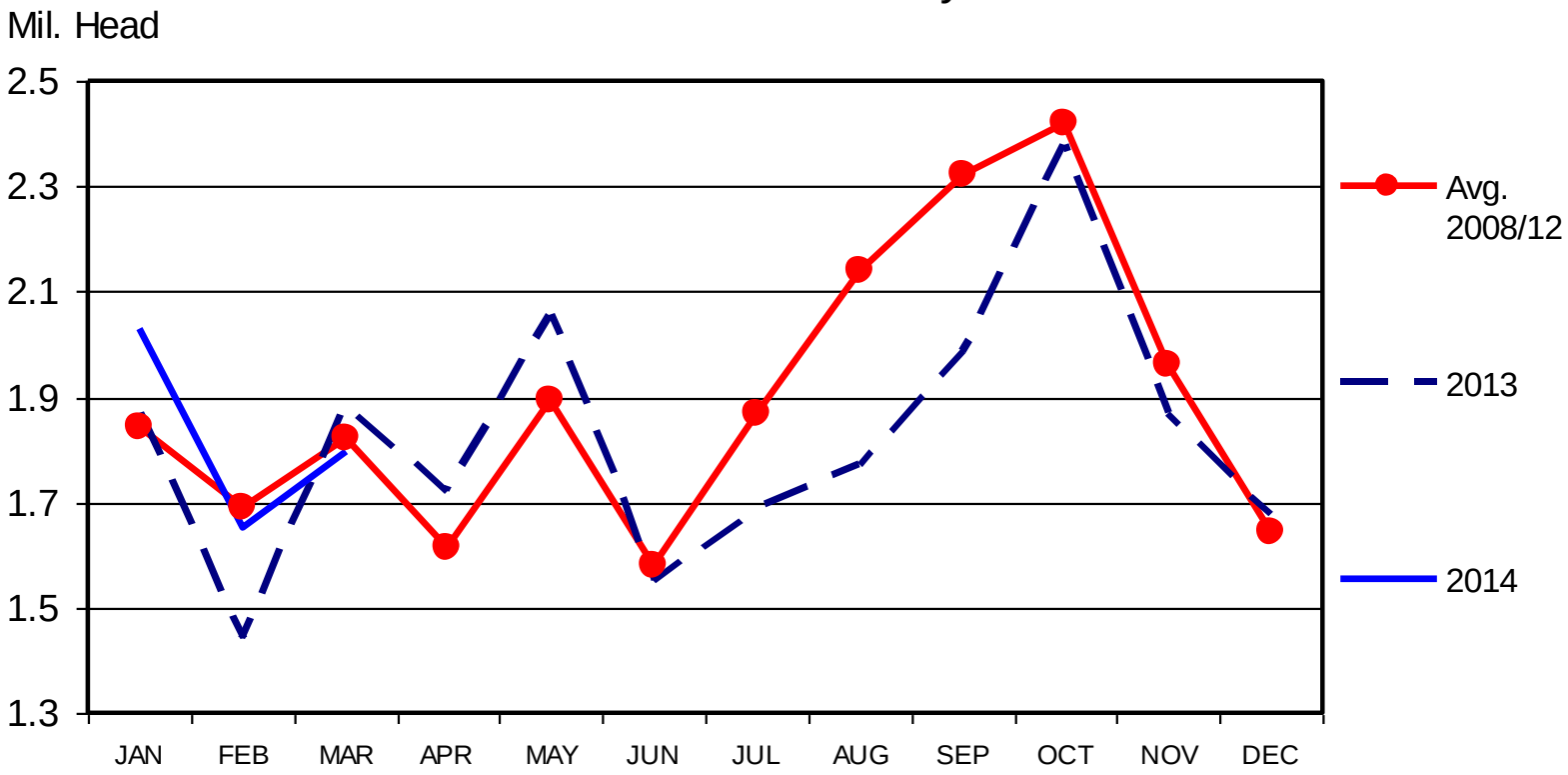
Livestock Marketing Information Center

Data Source: USDA-NASS

March: -5% vs. Pre-report Exp: +1.6%

FEEDLOT PLACEMENTS

US Total, Monthly



C-N-08
04/25/14

Livestock Marketing Information Center

Data Source: USDA-NASS

Historical and Projected Kansas Feedlot Net Returns (as of 4/7/14)

(http://www.agmanager.info/livestock/marketing/outlook/newsletters/FinishingReturns/default.asp)

February 14': +$172/steer

June LC:
5/1: $137.90
4/1: $137.00
3/1: $134.50

Table 1. Projected Values for Finishing Steers in Kansas Feedyards*

Closeout Mo-Yr	Net Return	FCOG**	Fed Price	Feeder Price	Breakeven FCOG**	Breakeven Fed Price	Breakeven Feeder Price
Mar-14	202.33	95.14	149.93	158.78	131.95	135.02	183.84
Apr-14	13.06	92.46	139.07	163.34	95.02	138.08	164.94
May-14	70.27	90.52	141.95	164.18	103.72	136.66	173.01
Jun-14	15.43	87.50	136.20	165.12	90.22	135.08	167.02
Jul-14	23.66	86.09	133.74	163.80	90.01	132.05	166.78
Aug-14	-13.49	86.65	138.89	170.64	84.21	139.84	169.09

Representative Barometer for Trends in Profitability

Economic returns – a sign of over capacity in industry?

Historical & Projected Average Net Returns for Finishing Steers in KS Feedyards

$ Per Head

200
150
100
50
0
50
100
150
200
250
300
350

Jan-04 Jul-04 Jan-05 Jul-05 Jan-06 Jul-06 Jan-07 Jul-07 Jan-08 Jul-08 Jan-09 Jul-09 Jan-10 Jul-10 Jan-11 Jul-11 Jan-12 Jul-12 Jan-13 Jul-13 Jan-14 Jul-14

Closeout Month

Jan 2004– Dec 2013 (120 months)

Average = -$56/hd

(range -294 to $168; std $97)

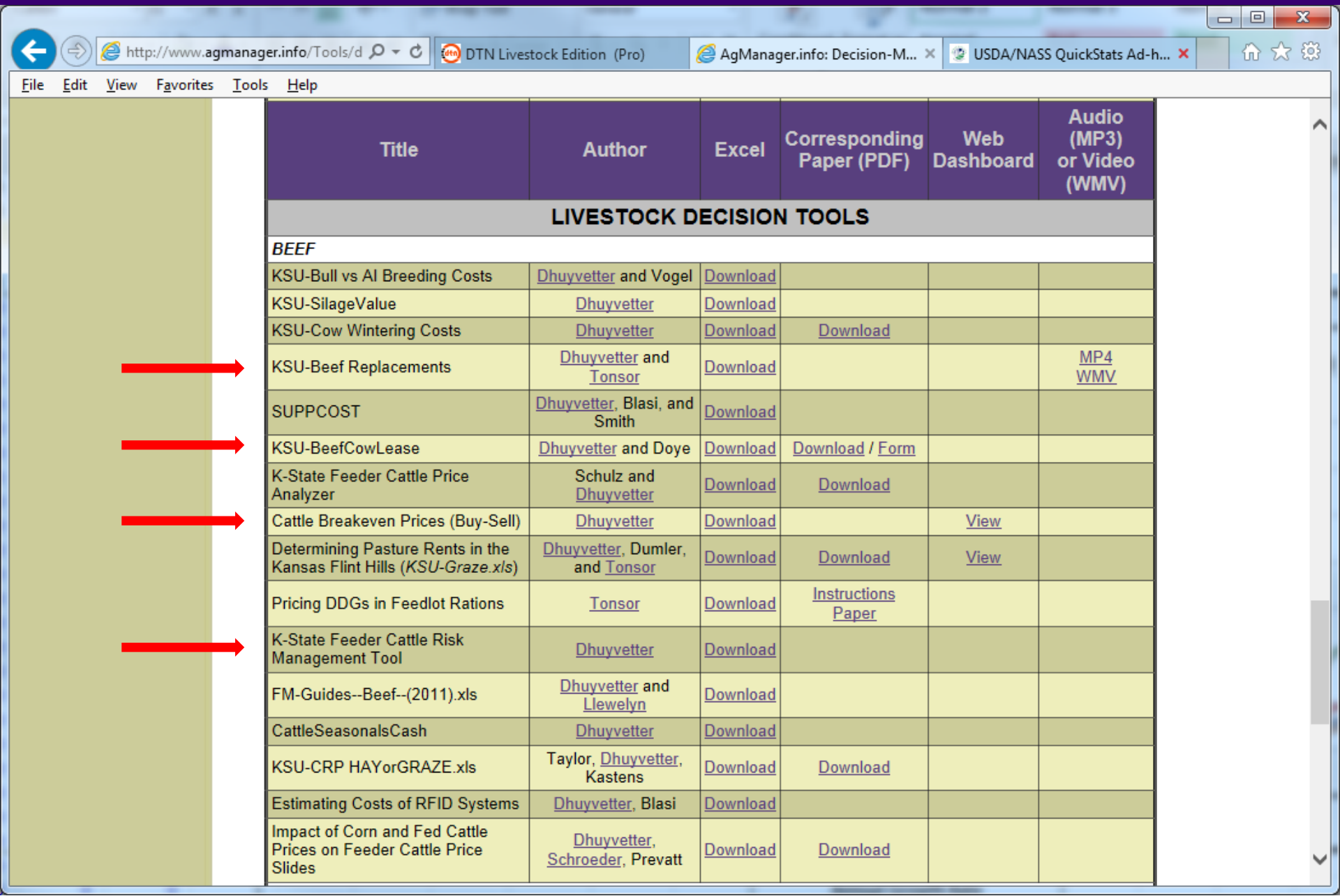
Percent months negative = 69%

Decision Tools

(available on AgManager.info)

www.agmanager.info/Tools

Excel spreadsheets and web dashboards on AgManager

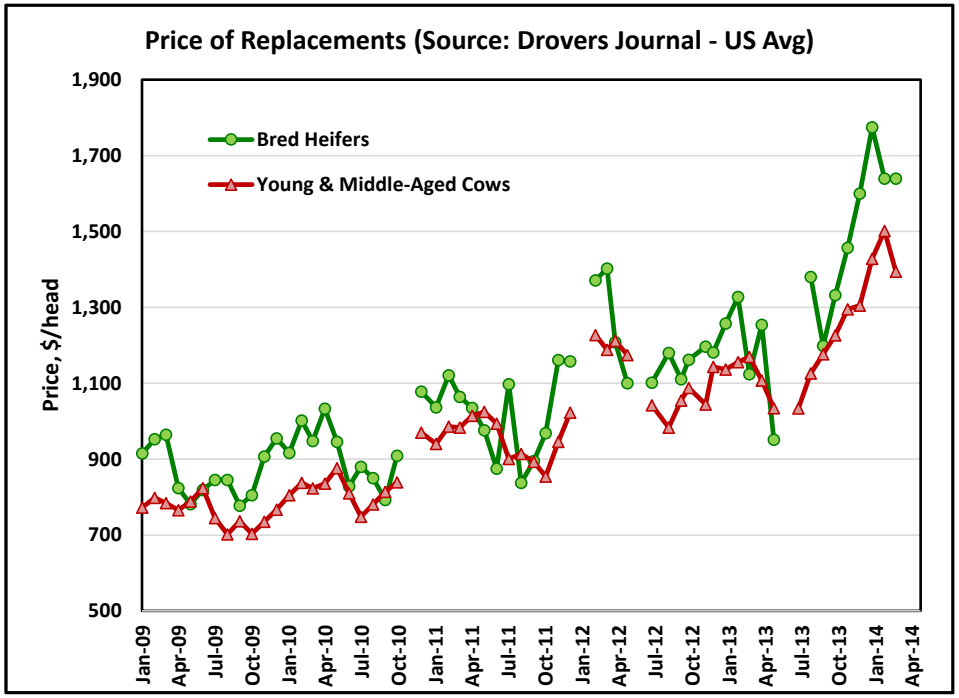


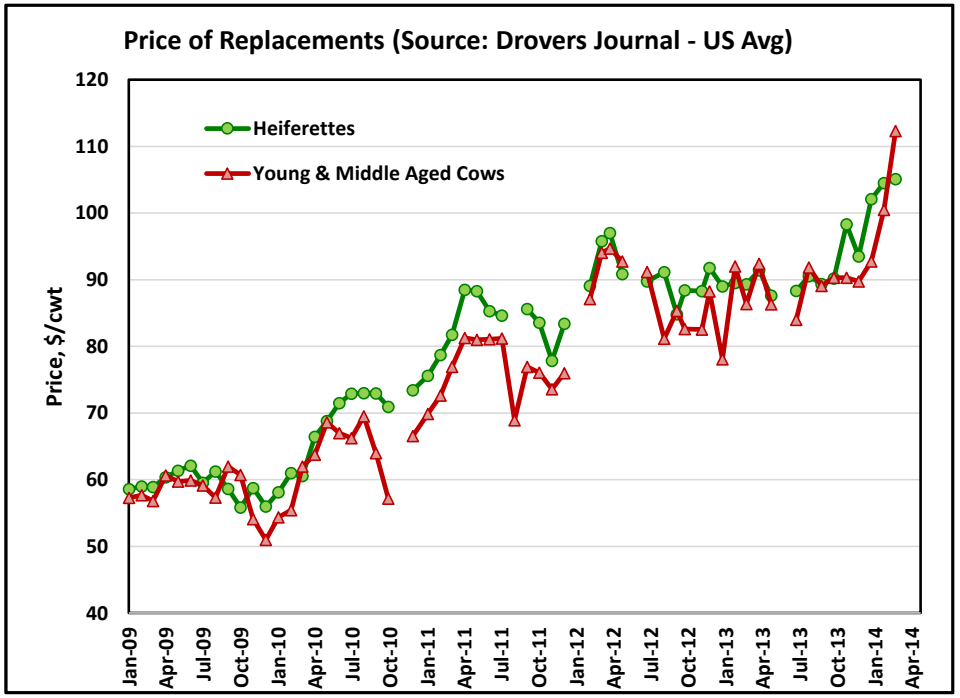
http://www.agmanager.info/Tools/d | DTN Livestock Edition (Pro) | AgManager.info: Decision-M... | USDA/NASS QuickStats Ad-h...

File Edit View Favorites Tools Help

Title	Author	Excel	Corresponding Paper (PDF)	Web Dashboard	Audio (MP3) or Video (WMV)
LIVESTOCK DECISION TOOLS					
BEEF					
KSU-Bull vs AI Breeding Costs	Dhuyvetter and Vogel	Download			
KSU-SilageValue	Dhuyvetter	Download			
KSU-Cow Wintering Costs	Dhuyvetter	Download	Download		
KSU-Beef Replacements	Dhuyvetter and Tonsor	Download			MP4 WMV
SUPPCOST	Dhuyvetter, Blasi, and Smith	Download			
KSU-BeefCowLease	Dhuyvetter and Doye	Download	Download / Form		
K-State Feeder Cattle Price Analyzer	Schulz and Dhuyvetter	Download	Download		
Cattle Breakeven Prices (Buy-Sell)	Dhuyvetter	Download		View	
Determining Pasture Rents in the Kansas Flint Hills (*KSU-Graze.xls*)	Dhuyvetter, Dumler, and Tonsor	Download	Download	View	
Pricing DDGs in Feedlot Rations	Tonsor	Download	Instructions Paper		
K-State Feeder Cattle Risk Management Tool	Dhuyvetter	Download			
FM-Guides--Beef--(2011).xls	Dhuyvetter and Llewelyn	Download			
CattleSeasonalsCash	Dhuyvetter	Download			
KSU-CRP HAYorGRAZE.xls	Taylor, Dhuyvetter, Kastens	Download	Download		
Estimating Costs of RFID Systems	Dhuyvetter, Blasi	Download			
Impact of Corn and Fed Cattle Prices on Feeder Cattle Price Slides	Dhuyvetter, Schroeder, Prevatt	Download	Download		

Prices of replacements are reflecting profit projections…





How much can be paid for replacements will vary based on a number of factors (e.g., annual costs/cow, price projections, number of calves, interest rate, etc.) **so it is important for each producer to evaluate what they can afford to pay** (see ***KSU-Beef Replacements.xls***).

How much can I pay for a heifer/cow?

KSU-BeefReplacements [Compatibility Mode] - Excel

FILE HOME INSERT PAGE LAYOUT FORMULAS DATA REVIEW VIEW DEVELOPER Sign in

N18

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

Version 2-20-14

INPUTS vs CALCULATED VALUES

In the *Price and weights* and *Net Present Value* tabs all blue numbers are inputs and all black numbers are calculate 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 you 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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Kansas State University
Department of Agricultural Economics

Introduction | Prices and weights | Net present value | Sensiti ...

READY 100%

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

(Excel spreadsheet available on www.AgManager.info)

Price and weight input assumptions…

KSU-BeefReplacements [Compatibility Mode] - Excel

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A1

Calf (average of steer and heifer) and Cull Cow Price Scenarios ($/cwt)

	Scenario 1 (S1) ERS (As of Feb. '14)		Scenario 2 (S2) Flat at $5 under S1 2014		Scenario 3 (S3) Scenario 1 +5%	
Year	Calf	Cull cow	Calf	Cull cow	Calf	Cull cow
2014	$188.59	$82.98	$183.59	$80.78	$198.02	$87.13
2015	$191.32	$84.18	$183.59	$80.78	$200.89	$88.39
2016	$198.62	$87.39	$183.59	$80.78	$208.55	$91.76
2017	$201.88	$88.83	$183.59	$80.78	$211.97	$93.27
2018	$201.29	$88.57	$183.59	$80.78	$211.35	$93.00
2019	$201.82	$88.80	$183.59	$80.78	$211.91	$93.24
2020	$201.15	$88.51	$183.59	$80.78	$211.21	$92.93
2021	$201.00	$88.44	$183.59	$80.78	$211.05	$92.86
2022	$201.93	$88.85	$183.59	$80.78	$212.03	$93.29
2023	$202.63	$89.16	$183.59	$80.78	$212.76	$93.62
Average	$199.02	$87.57	$183.59	$80.78	$208.97	$91.95

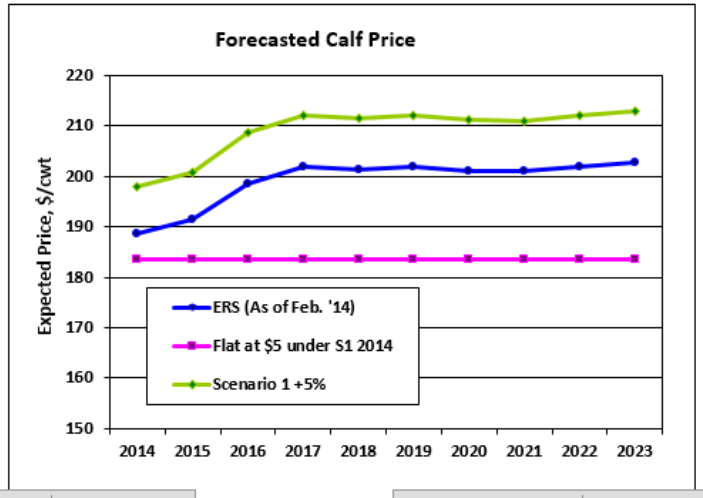
Average weight for calf price (average of steer and heifer), lbs/head 525

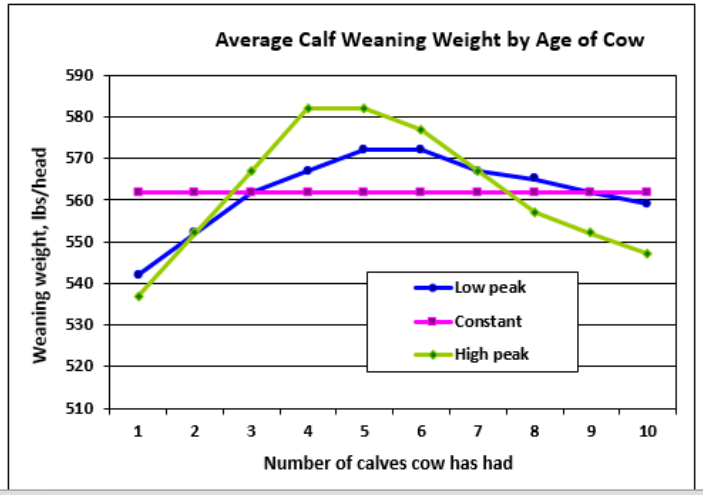
Price slide (change in price for weight deviation from base), $/lb $0.084

Weaning Weight (steer and heifer) Scenarios

	Scenario1 Low peak	Scenario2 Constant	Scenario3 High peak
Calf	Lbs/hd	Lbs/hd	Lbs/hd
1	542	562	537
2	552	562	552
3	562	562	567
4	567	562	582
5	572	562	582
6	572	562	577
7	567	562	567
8	565	562	557
9	562	562	552
10	559	562	547
Average	562	562	562

Print information

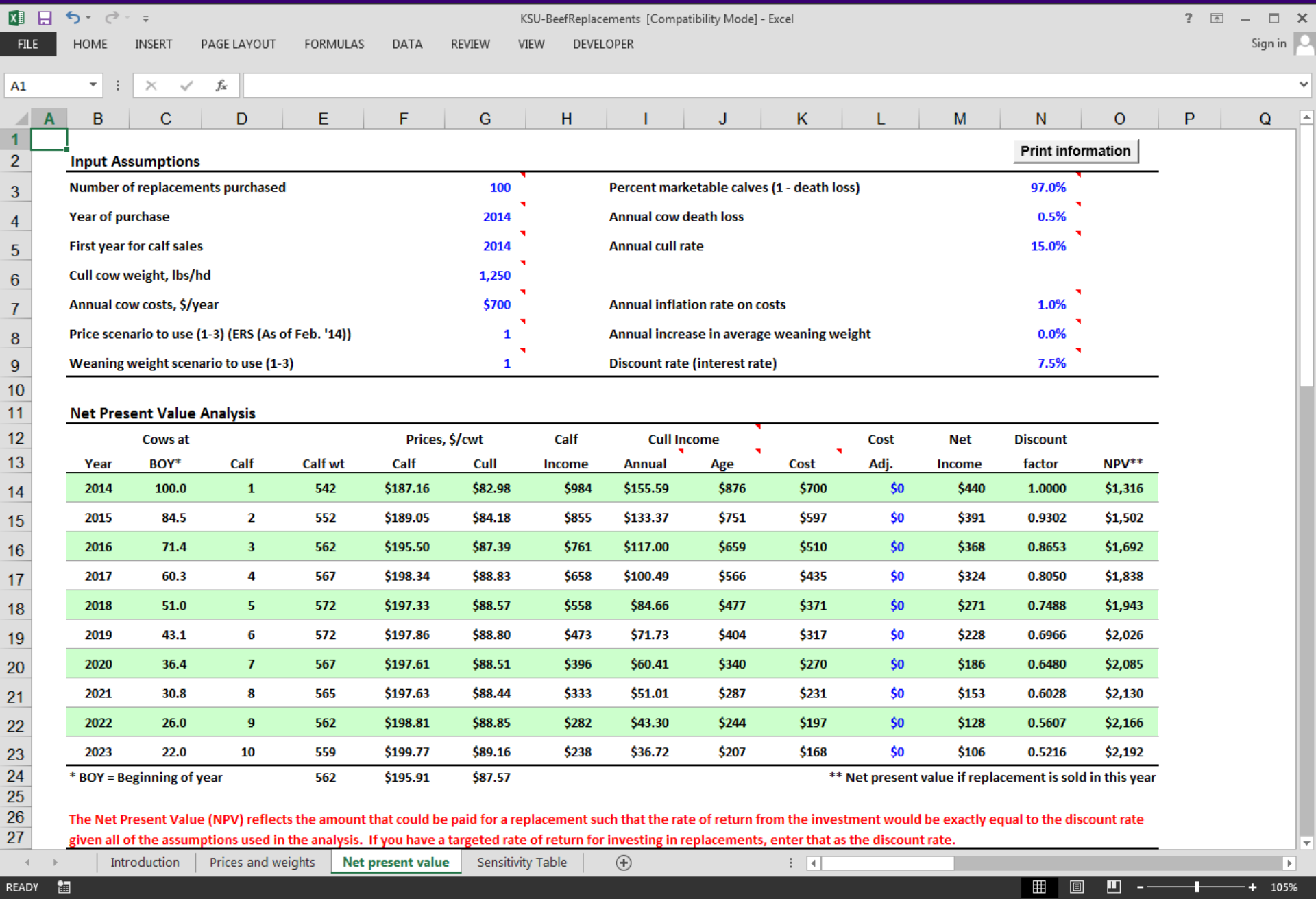




Introduction | Prices and weights | Net present value | Sensitivity Table

READY 95%

How much can I pay for a heifer/cow?



KSU-BeefReplacements [Compatibility Mode] - Excel

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A1

Print information

Input Assumptions

Number of replacements purchased	100	Percent marketable calves (1 - death loss)	97.0%
Year of purchase	2014	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 cow costs, $/year	$700	Annual inflation rate on costs	1.0%
Price scenario to use (1-3) (ERS (As of Feb. '14))	1	Annual increase in average weaning weight	0.0%
Weaning weight scenario to use (1-3)	1	Discount rate (interest rate)	7.5%

Net Present Value Analysis

Year	Cows at BOY*	Calf	Calf wt	Prices, $/cwt Calf	Prices, $/cwt Cull	Calf Income	Cull Income Annual	Cull Income Age	Cost	Cost Adj.	Net Income	Discount factor	NPV**
2014	100.0	1	542	$187.16	$82.98	$984	$155.59	$876	$700	$0	$440	1.0000	$1,316
2015	84.5	2	552	$189.05	$84.18	$855	$133.37	$751	$597	$0	$391	0.9302	$1,502
2016	71.4	3	562	$195.50	$87.39	$761	$117.00	$659	$510	$0	$368	0.8653	$1,692
2017	60.3	4	567	$198.34	$88.83	$658	$100.49	$566	$435	$0	$324	0.8050	$1,838
2018	51.0	5	572	$197.33	$88.57	$558	$84.66	$477	$371	$0	$271	0.7488	$1,943
2019	43.1	6	572	$197.86	$88.80	$473	$71.73	$404	$317	$0	$228	0.6966	$2,026
2020	36.4	7	567	$197.61	$88.51	$396	$60.41	$340	$270	$0	$186	0.6480	$2,085
2021	30.8	8	565	$197.63	$88.44	$333	$51.01	$287	$231	$0	$153	0.6028	$2,130
2022	26.0	9	562	$198.81	$88.85	$282	$43.30	$244	$197	$0	$128	0.5607	$2,166
2023	22.0	10	559	$199.77	$89.16	$238	$36.72	$207	$168	$0	$106	0.5216	$2,192
			562	$195.91	$87.57								

* BOY = Beginning of year

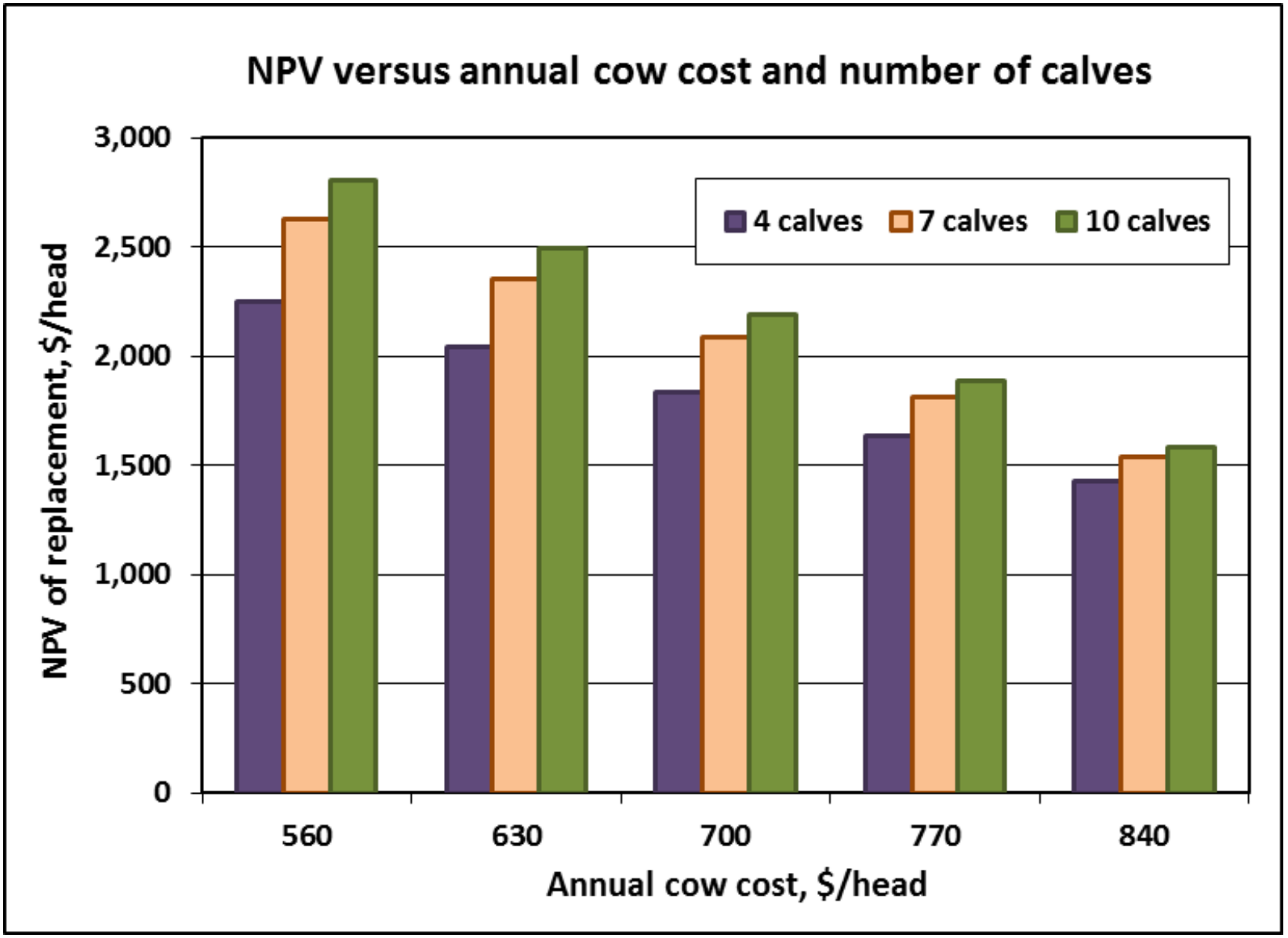
** Net present value if replacement is sold in this year

The Net Present Value (NPV) reflects the amount that could be paid for a replacement such that the rate of return from the investment would be exactly equal to the discount rate given all of the assumptions used in the analysis. If you have a targeted rate of return for investing in replacements, enter that as the discount rate.

Introduction | Prices and weights | Net present value | Sensitivity Table

READY 105%

How much can I pay for a heifer/cow?



Historical prices by weight and month ➔ Value of gain

CattleSeasonalsCash.xls [Compatibility Mode] - Microsoft Excel

File Home Insert Page Layout Formulas Data Review View Acrobat

A1

Cattle_Seasonals_Cash.xls -- a spreadsheet of historical cattle prices in Kansas that can be used to examine seasonal price patterns and value of gain for different weights of cattle.

Print information

Last updated: 7-14-12

Class of cattle -- Prices: Kansas 5-6 cwt. steers

Class of cattle -- Value of gain: 7-8 vs 5-6 cwt. steers (3 mo lag)

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Department of Agricultural Economics

User-specified Value of gain

	Scenario 1	2	3	4	5	6
Starting month (Jan=1, Feb=2, etc)	5	5	10	10	5	5
Class (weight/sex) of Cattle - Starting	550 lb str	550 lb str	350 lb str	350 lb str	550 lb str	550 lb str
Ending month (Oct=10, Nov=11, etc)	8	10	1	3	8	10
Class (weight/sex) of Cattle - Ending	750 lb str	850 lb str	550 lb str	650 lb str	750 lb str	850 lb str
Weight gain	200	300	200	300	200	300
Months / Average daily gain (ADG)*	3 / 2.19	5 / 1.97	3 / 2.19	5 / 1.97	3 / 2.19	5 / 1.97

* Months between starting and ending periods and calculated average daily gain (ADG) assuming 30.4 days per month.

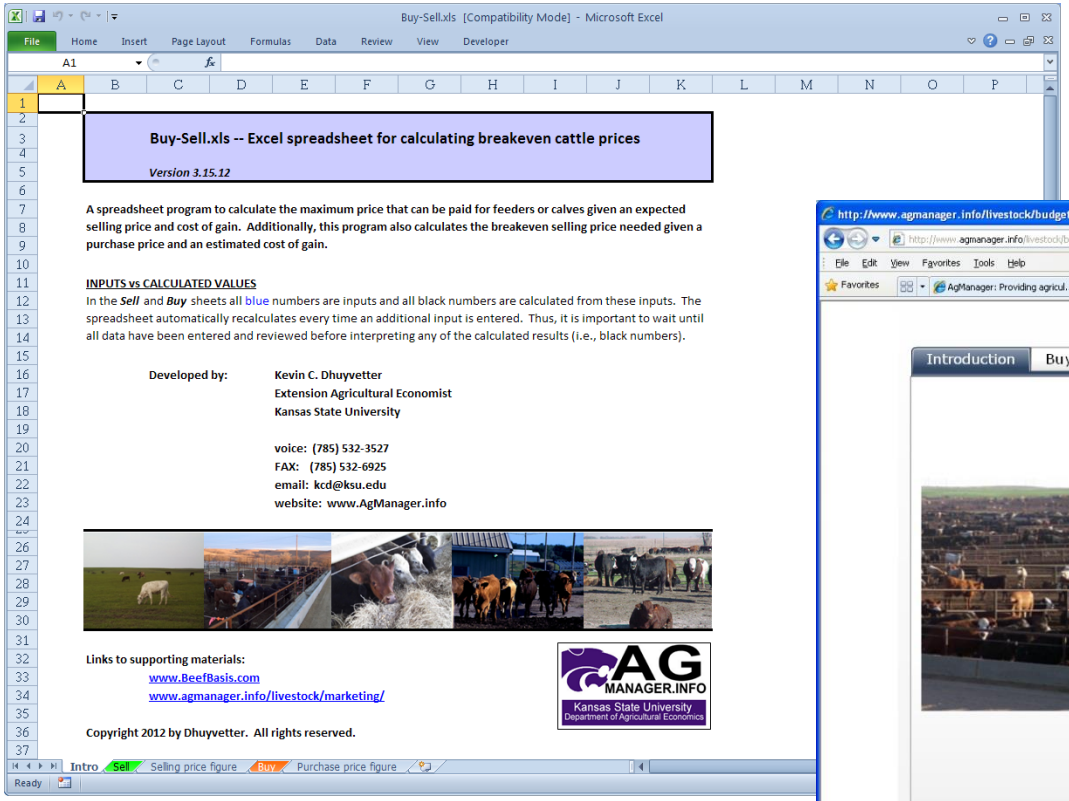
Intro-Inputs | Prices | Value of gain | Value of gain--User specified

Ready 75%

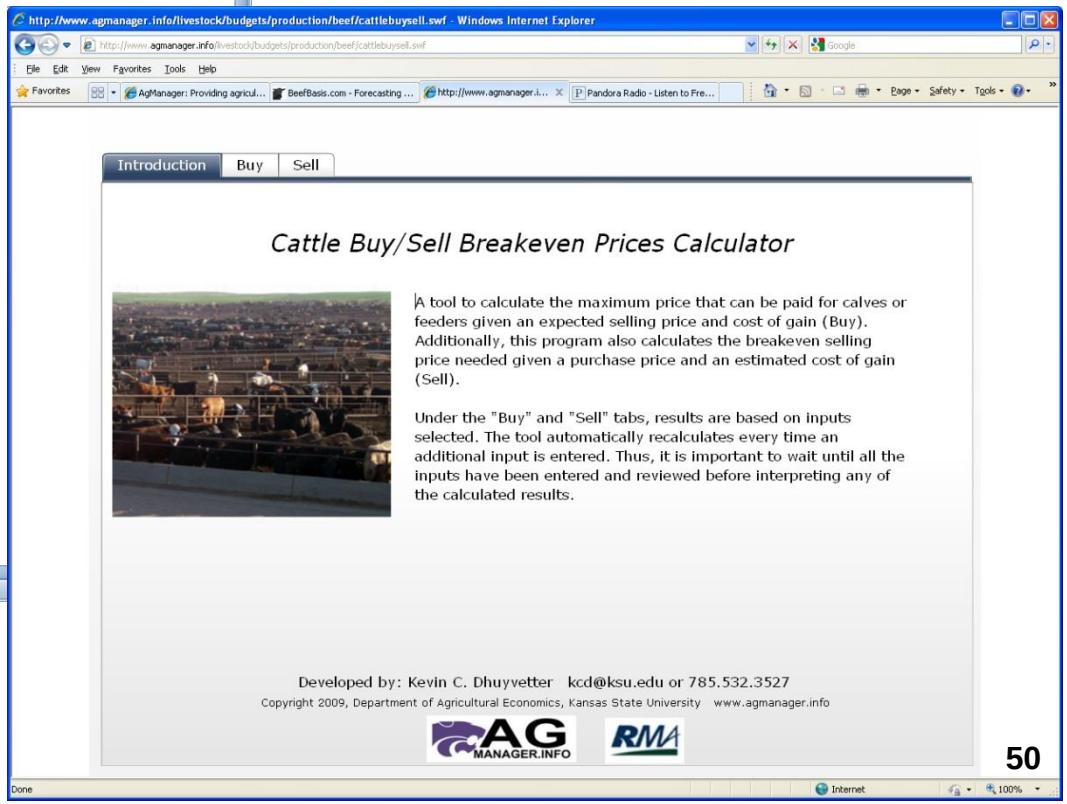
Excel spreadsheet with historical feeder and fed cattle prices (steers and heifers) available on www.AgManager.info

Buy-Sell Breakeven Price Calculator

Calculator to help producers estimate breakeven purchase prices for feeder calves they are buying and breakeven selling prices for calves they are feeding given various assumptions (Excel spreadsheet and web dashboard available on www.AgManager.info)



← **Excel spreadsheet**



Web dashboard online calculator →

http://www.agmanager.info/livestock/budgets/production/beef/Buy-Sell.swf - Windows Internet Explorer

http://www.agmanager.info/livestock/budgets/production/beef/Buy-Sell.swf

Favorites | http://www.agmanage... | BeefBasis.Com | Microsoft Outlook Web Ac... | Page | Safety | Tools

Introduction | Buy | Sell

Inputs

165.47	Purchase Price ($/cwt)
100.00	Feeding cost of gain ($/cwt)
20.00	Costs per head (trucking, etc.)*
0.00	Desired Profit per Head
475	Purchase Weight
2.15	Average Daily Gain (pay to pay)
600	Minimum Selling Weight

Inputs

Percent Death Loss**

1.50%

Interest rate on feeder

7.00%

*Do not enter any costs included in feeding cost of gain

**Enter only if death loss is not in feeding cost of gain, otherwise enter 0.

Output

Selling Weight	Purchase Price 161.47	163.47	165.47	167.47	169.47
	Breakeven Selling Price				
600	154.36	155.99	157.61	159.24	160.87
650	150.82	152.33	153.84	155.34	156.85
700	147.82	149.23	150.63	152.04	153.44
750	145.25	146.67	147.88	149.20	150.52
800	143.03	144.27	145.51	146.75	147.99
850	141.09	142.26	143.44	144.61	145.78
900	139.40	140.51	141.62		

Breakeven Selling

Sensitivity to cost of gain:

$90 = $144.27

$100 = $147.88

$110 = $151.50

Breakeven Selling Price Worksheet

(Blue values in shaded cells are inputs to be entered)

Purchase weight (lbs)	475
Purchase price ($/cwt)	$165.47
Purchase date (mm/dd/yy)	07/14/12
Average Daily Gain (pay-to-pay)	2.15
Feeding cost of gain ($/cwt)	$100.00
Interest rate on feeder and feeding cost of gain	7.00%
Percent death loss*	1.50%
Costs per head (trucking, vaccines, backgrounding, etc.)**	$20.00
Desired profit per head	$0.00

Increments to use in tables below	
Selling Weight (lbs)	50.0
Purchase Price ($/cwt)	$5.00
Feeding Cost of Gain ($/cwt)	$5.00

* Enter ONLY if death loss is NOT included in feeding cost of gain, otherwise enter zero.

** Do not enter any costs included in feeding cost of gain.

Selling Weight[1]	Expected sale date	Relevant futures price	Expected basis*	Expected cash price
600	09/11/12	$146.65	$9.24	$155.89
650	10/04/12	$149.10	$4.29	$153.39
700	10/27/12	$150.63	$0.92	$151.55
750	11/19/12	$150.63	$0.03	$150.66
800	12/13/12	$152.83	($0.80)	$152.03
850	01/05/13	$152.83	($3.46)	$149.37
900	01/28/13	$152.83	($7.14)	$145.69

Purchase Price ($/cwt)

$150.47	$155.47	$160.47	$165.47	$170.47	$175.47	$180.47
Breakeven Selling Price ($/cwt)[2]						
145.42	149.49	153.55	157.61	161.68	165.74	169.81
142.54	146.30	150.07	153.84	157.61	161.37	165.14
140.09	143.61	147.12	150.63	154.15	157.66	161.17
138.00	141.30	144.59	147.88	151.18	154.47	157.77
136.20	139.30	142.41	145.51	148.61	151.71	154.81
134.64	137.57	140.50	143.44	146.37	149.30	152.23
133.28	136.06	138.84	141.62	144.40	147.18	149.96

[1] Enter the minimum selling (pay) weight you want to consider.

[2] Based on a feeding cost of gain of $100/cwt.

Selling Weight	Expected sale date	Relevant futures price	Expected basis	Expected cash price
600	09/11/12	$146.65	$9.24	$155.89
650	10/04/12	$149.10	$4.29	$153.39
700	10/27/12	$150.63	$0.92	$151.55
750	11/19/12	$150.63	$0.03	$150.66
800	12/13/12	$152.83	($0.80)	$152.03
850	01/05/13	$152.83	($3.46)	$149.37
900	01/28/13	$152.83	($7.14)	$145.69

Feeding Cost of Gain ($/cwt)

$85.00	$90.00	$95.00	$100.00	$105.00	$110.00	$115.00
Breakeven Selling Price ($/cwt)[1]						
154.65	155.64	156.63	157.61	158.60	159.59	160.58
149.94	151.24	152.54	153.84	155.14	156.44	157.74
145.92	147.49	149.06	150.63	152.20	153.77	155.35
142.46	144.27	146.08	147.88	149.69	151.50	153.30
139.46	141.48	143.49	145.51	147.52	149.54	151.55
136.84	139.04	141.24	143.44	145.64	147.83	150.03
134.52	136.89	139.25	141.62	143.98	146.35	148.71

http://www.beefbasis.com/Stocke | AgManager: Providing agricult... | BeefBasis.com | Pandora Radio - Listen to Free ...

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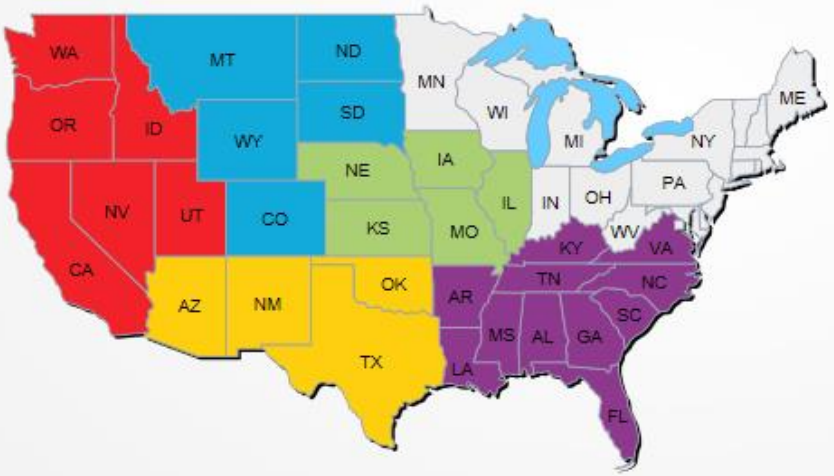
Decision Support for America's Beef Producers

Home | Forecasting Tools | Market Data | Historic Basis Tool | Ration and Cost Calculator | Financial Tools | Other Tools | About BeefBasis

Home > MarketData > BeefBasis Stocker Index



Stocker Index

The Stocker Index reflects a 7-day weighted average price of medium and large framed steers weighing 350-650 pounds. The data used to calculate the index comes from auction reports generated by the USDA.

The Region Stocker Index is calculated like the Stocker Index, but only with data from the indicated region.

Click on a state to get started.

A new resource

CAS RMA USDA Agricultural Economics Kansas State University

http://www.beefbasis.com/Stocke | AgManager: Providing agricult... | BeefBasis.com | Pandora Radio - Listen to Free ...

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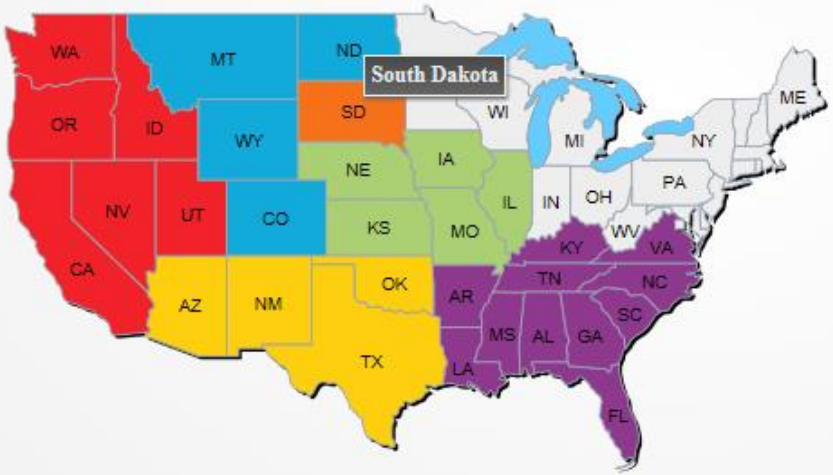
Home > MarketData > BeefBasis Stocker Index



Region 2

[1] Stocker Index: **$217.53**

[2] Region Stocker Index: **$232.75**

[3] Value of Gain: $1.247

Region 2: Colorado, Montana, North Dakota, South Dakota, and Wyoming

1. Weighted average price ($/cwt). Average weight of 517 lbs
2. Weighted average price ($/cwt). Average weight of 536 lbs
3. VOG is the marginal value of an extra lb on the sale date, $/lb

Updated: 4/26/2014

A new resource

CAS RMA USDA Agricultural Economics Kansas State University

A new resource

Beef Demand

Beef Demand

- ***Critically Important, Yet Often Confused***
  - ***Demand strength***
    - ***reflects consumer valuation of beef***
      - ***underlies total $ available for the industry***
        - » ***drives prices and profitability for all***
  - ***"To Fix It You Have to Understand It"***
    - ***Wayne Purcell, 1998 (http://www.naiber.org/Publications/RILP/primer1.pdf)***

History, Status, and Future of Beef Demand

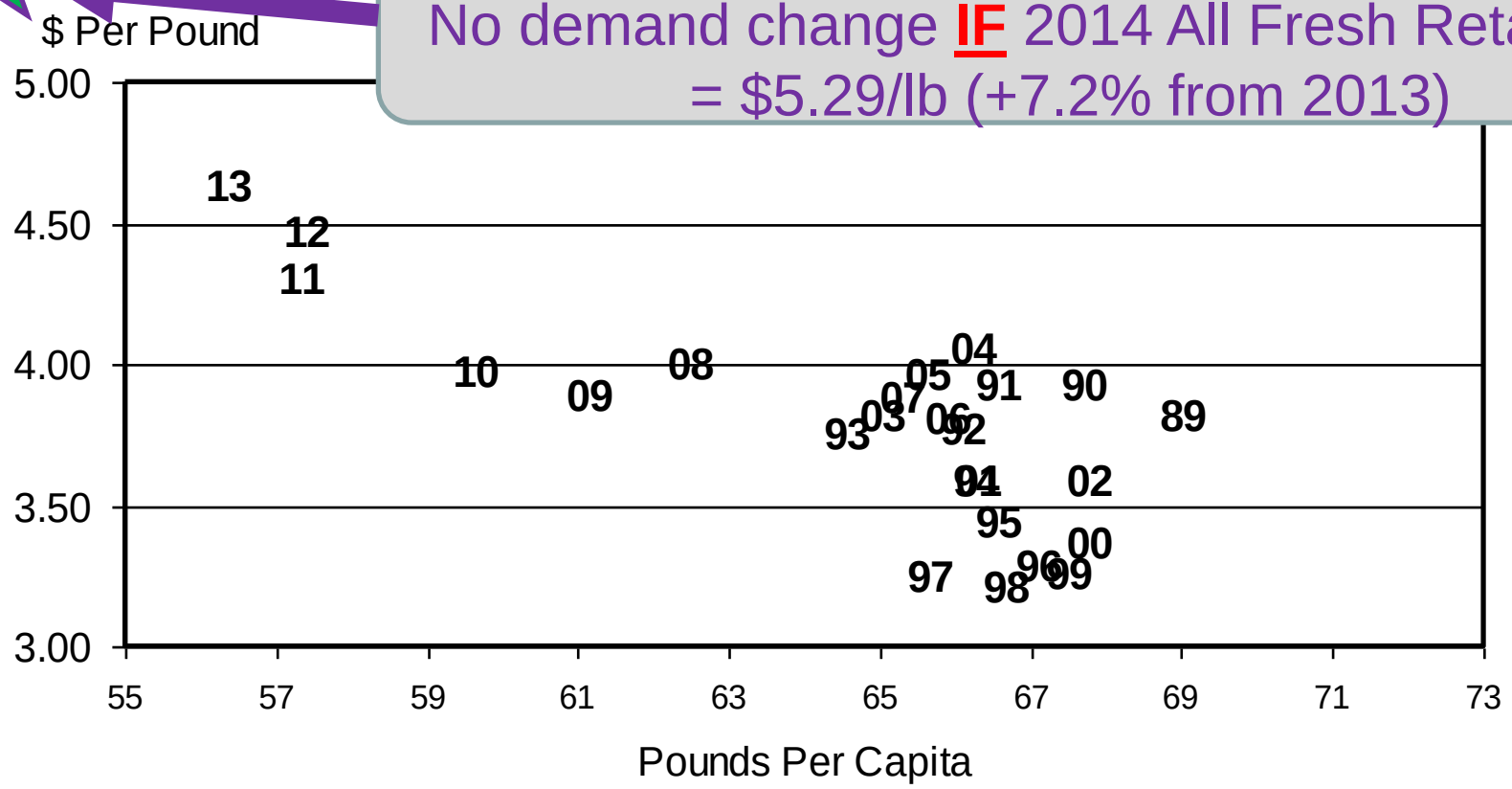
- **Past: Multiple decades of decline**
- **Current: Post recession strength has been surprising**
- **Future: Optimism rational if industry engages**

Domestic Beef Demand

BEEF PRICE-QUANTITY RELATIONSHIP

Annual, Retail Weight, Deflated All Fresh Retail Price

Given ERS forecast (53.0 lbs/capita) in 2014;
No demand change **IF** 2014 All Fresh Retail Price
= $5.29/lb (+7.2% from 2013)



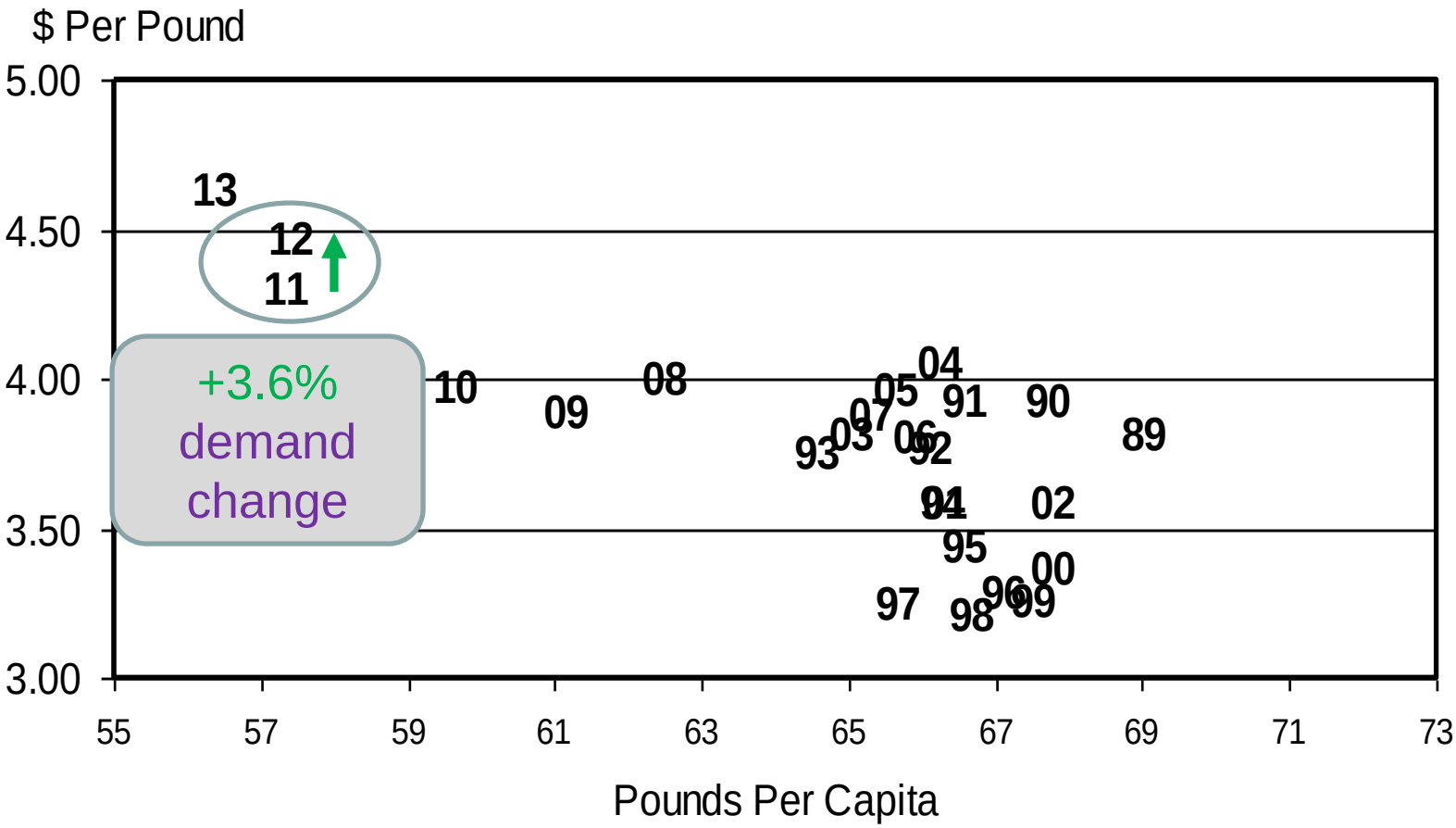
Livestock Marketing Information Center

Data Source: Bureau of Economic Analysis & USDA-ERS, Compiled & Analysis by LMIC

Domestic Beef Demand

BEEF PRICE-QUANTITY RELATIONSHIP

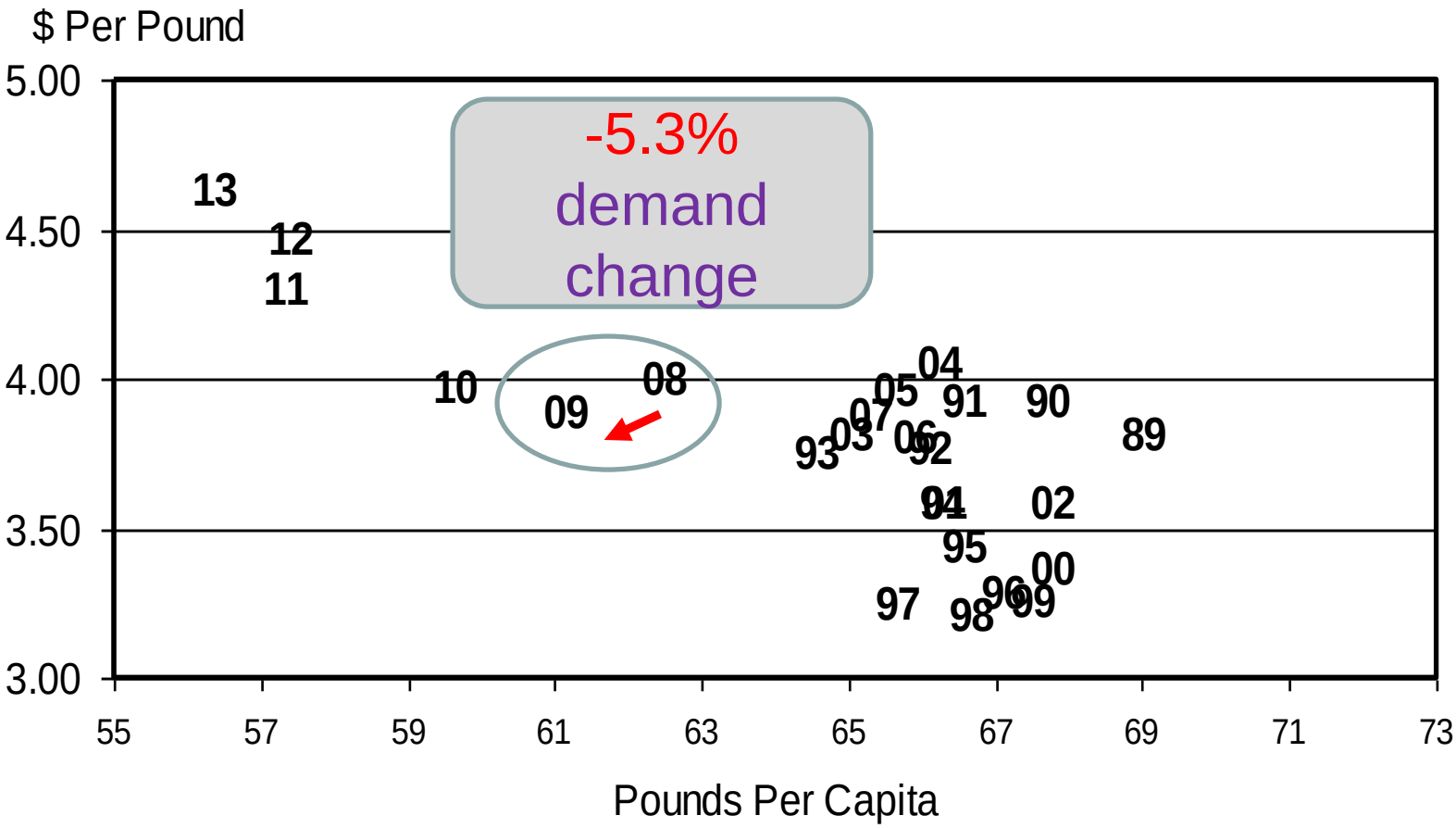
Annual, Retail Weight, Deflated All Fresh Retail Price

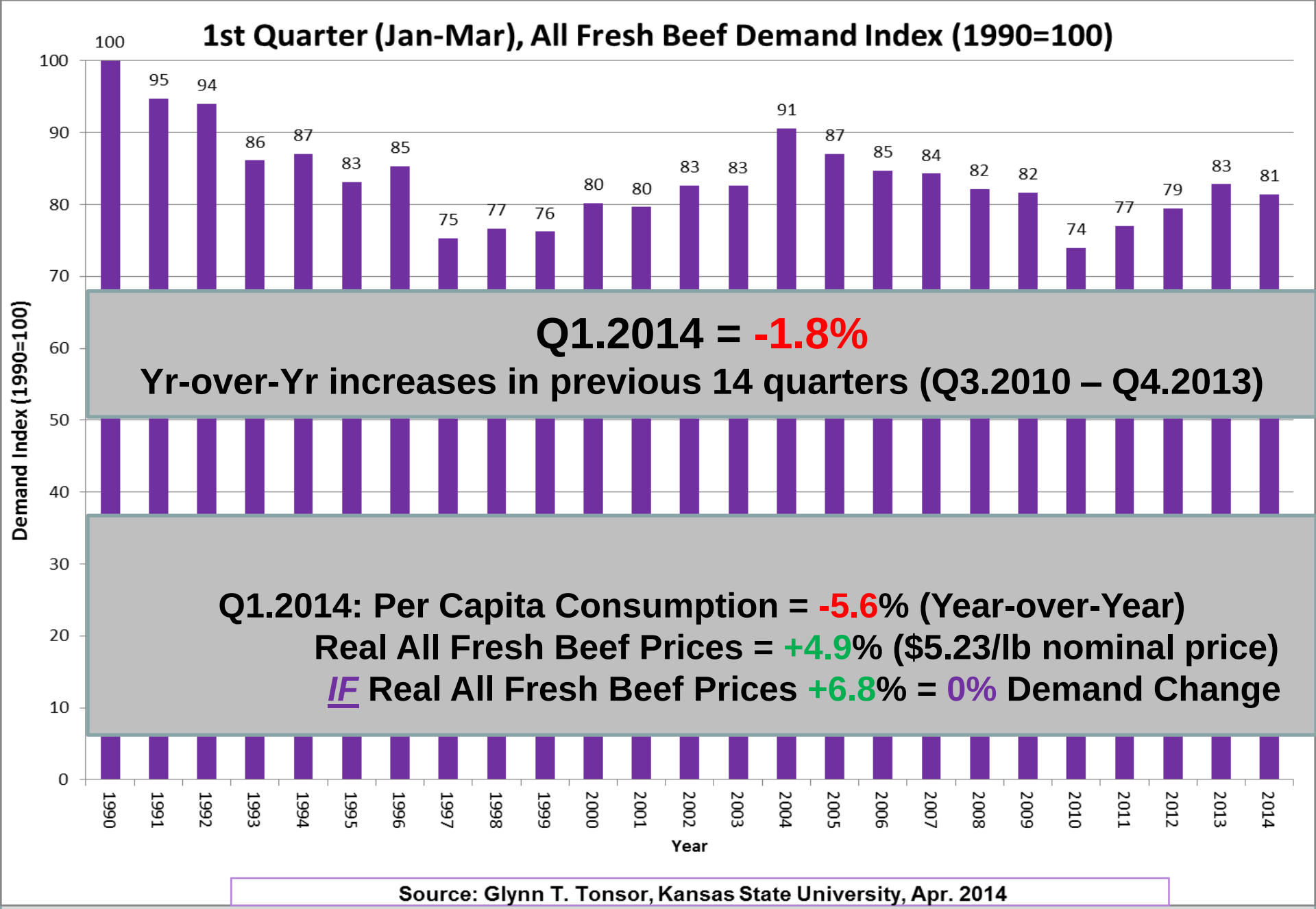


Domestic Beef Demand

BEEF PRICE-QUANTITY RELATIONSHIP

Annual, Retail Weight, Deflated All Fresh Retail Price

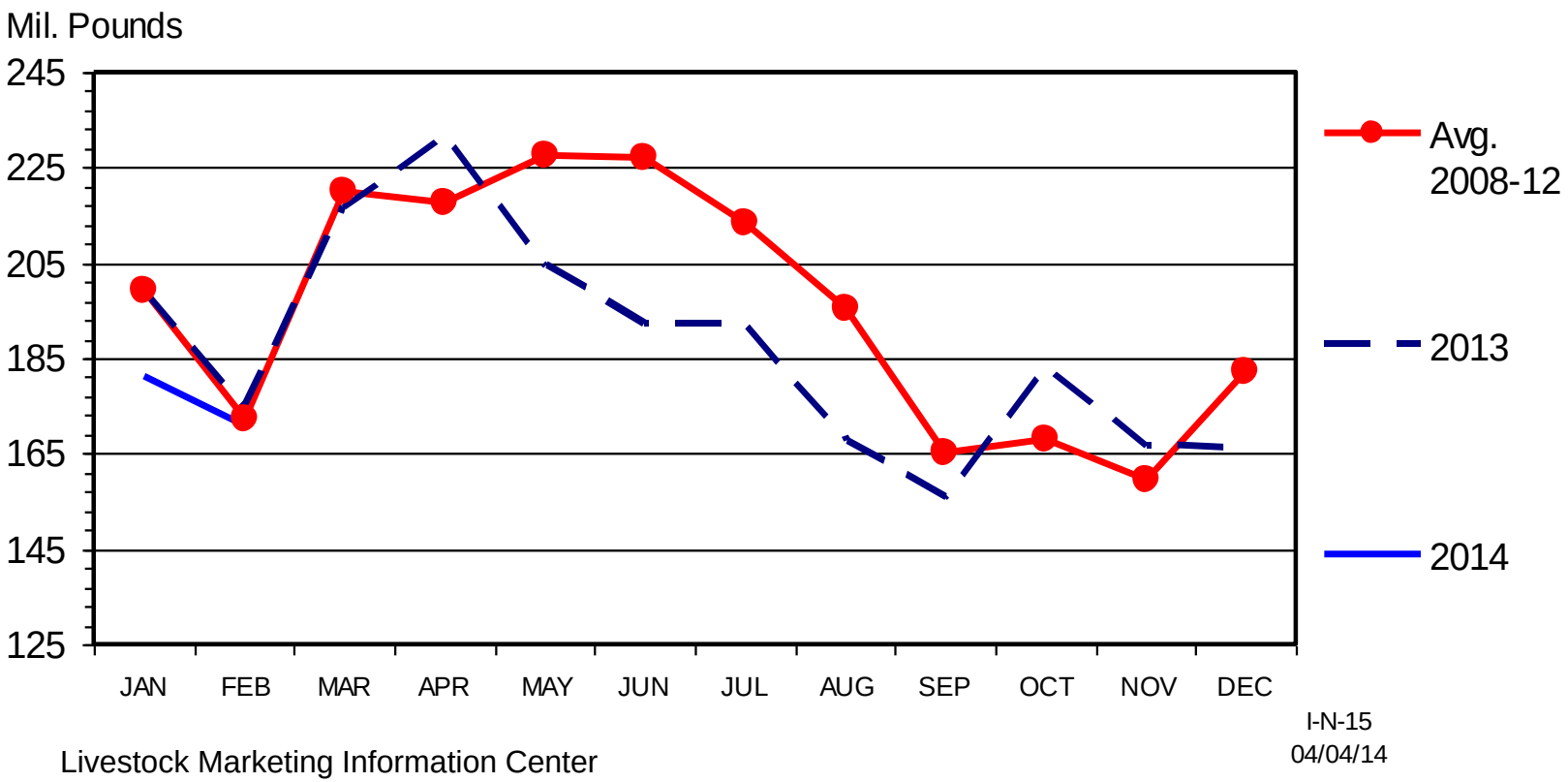




Source: Glynn T. Tonsor, Kansas State University, Apr. 2014

http://www.agmanager.info/livestock/marketing/Beef%20Demand/default.asp

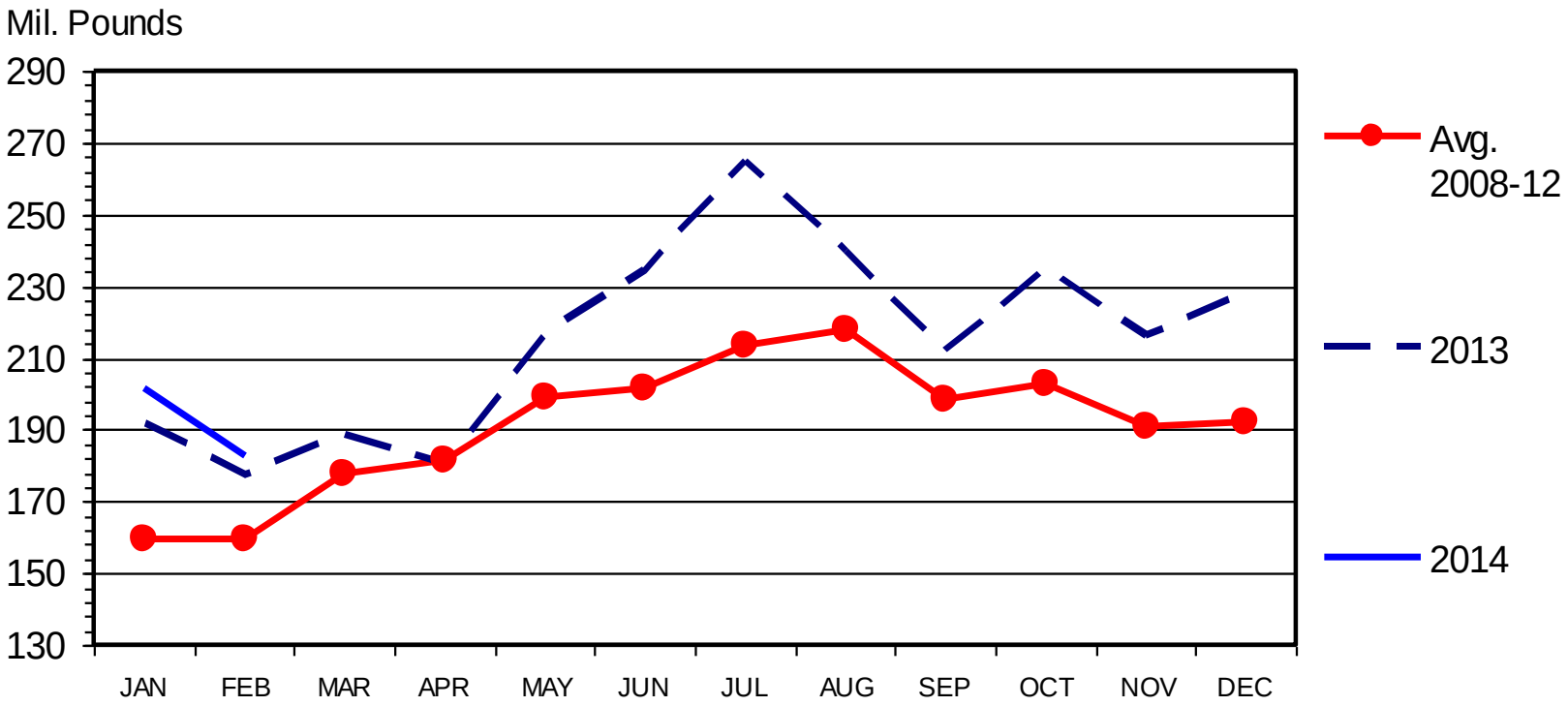
Foreign Beef Demand



Foreign Beef Demand

U S BEEF AND VEAL EXPORTS

Carcass Weight, Monthly

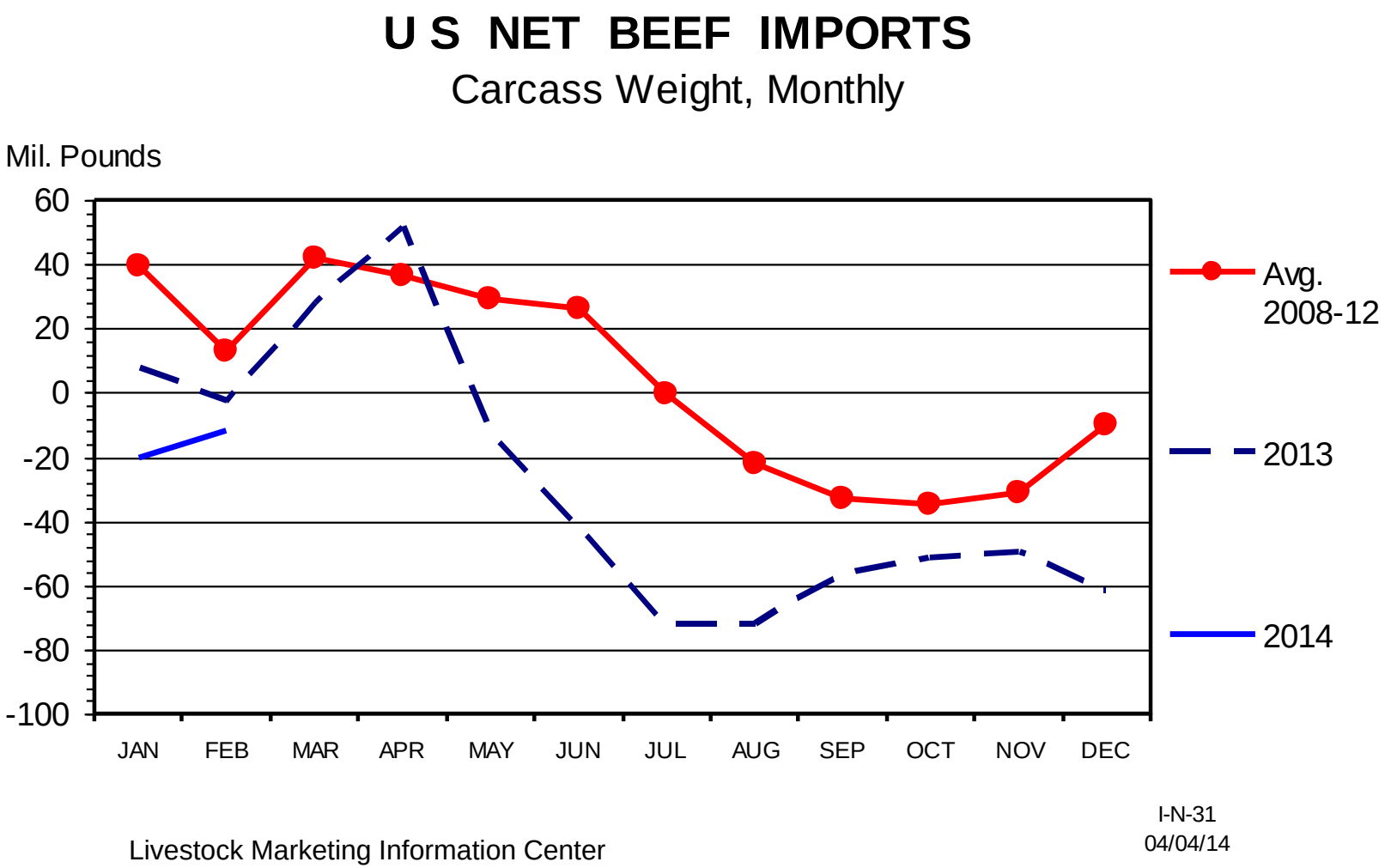


I-N-16
04/04/14

Livestock Marketing Information Center

Data Source: USDA-ERS & USDA-FAS

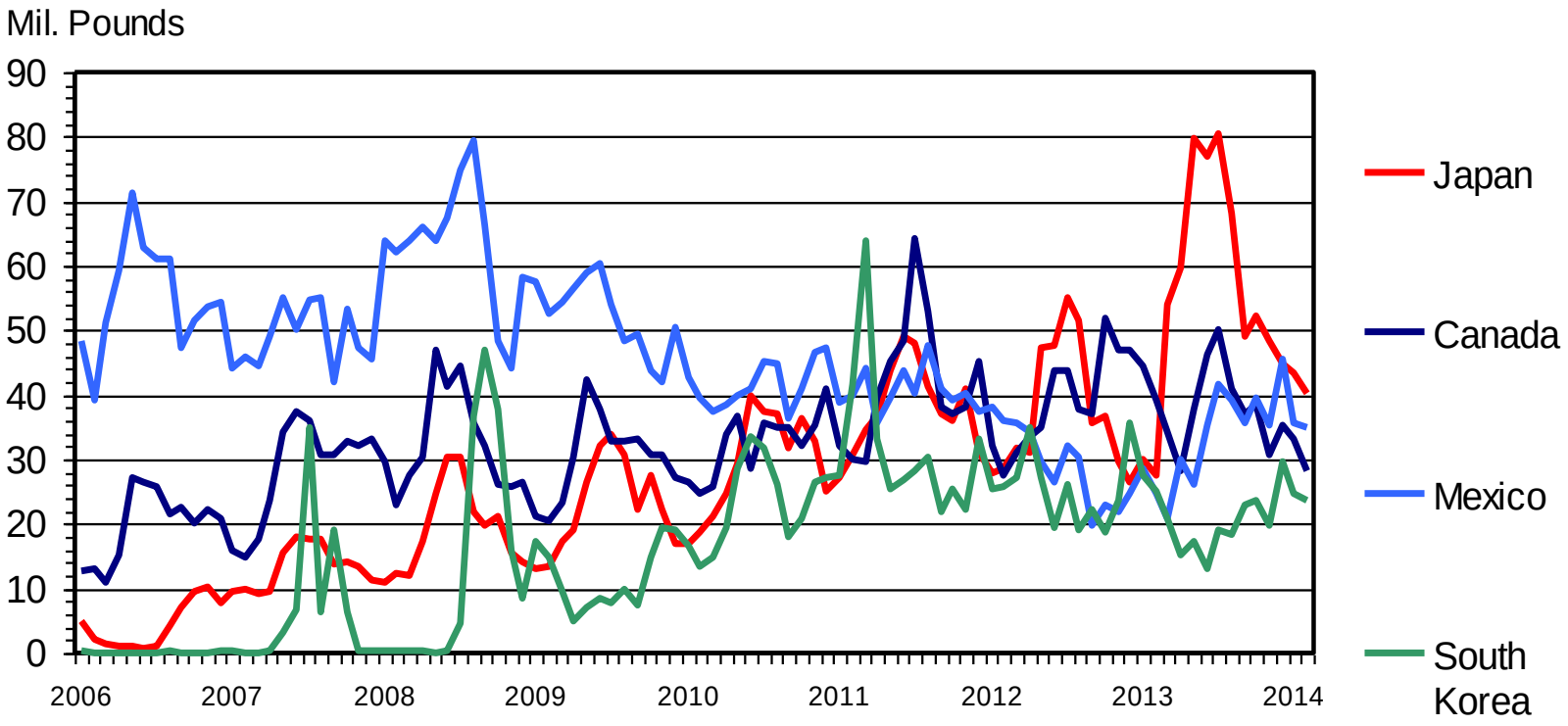
Foreign Beef Demand



Foreign Beef Demand

U S BEEF EXPORTS TO MAJOR MARKETS

Carcass Weight, Monthly



I-N-35
04/04/14

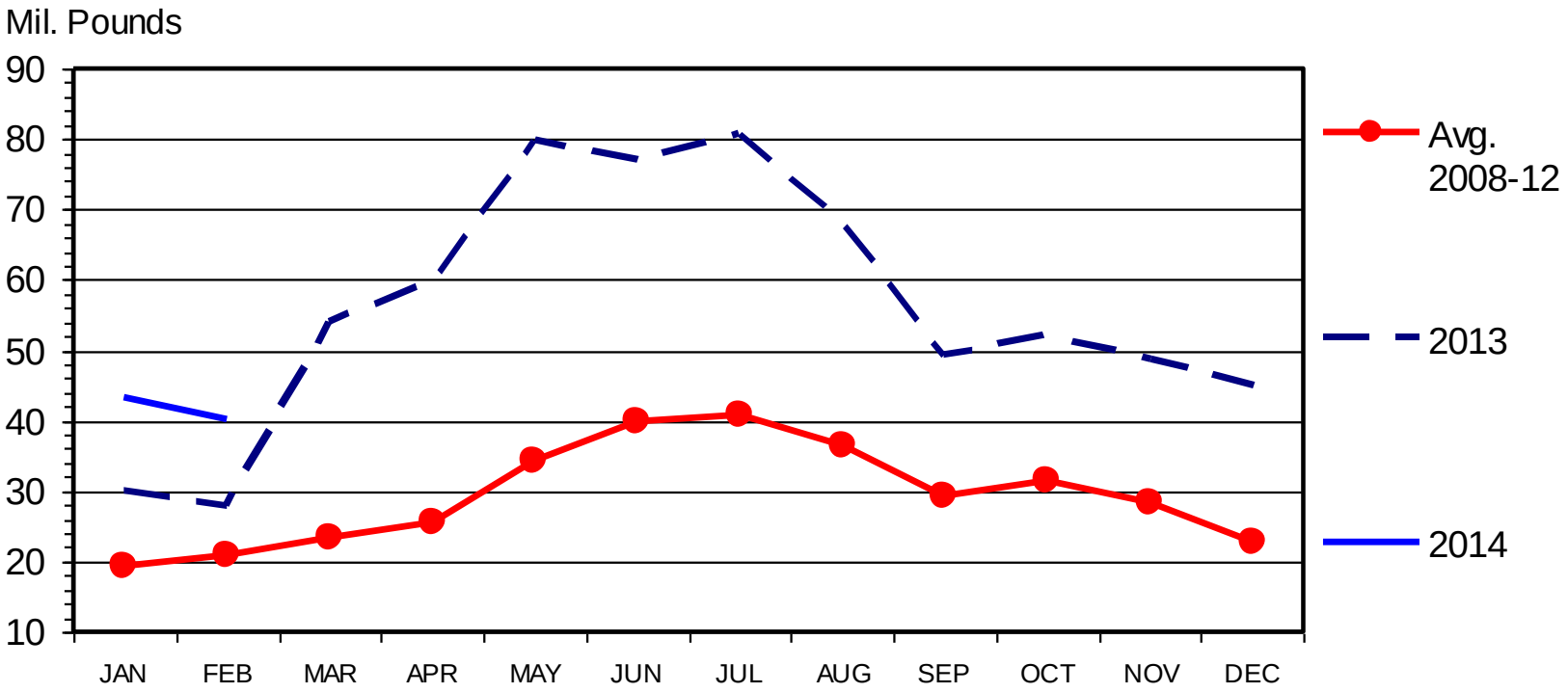
Livestock Marketing Information Center

Data Source: USDA-ERS & USDA-FAS

Foreign Beef Demand

U S BEEF EXPORTS TO JAPAN

Carcass Weight, Monthly



I-N-37
04/04/14

Livestock Marketing Information Center

Data Source: USDA-ERS & USDA-FAS

Industry's export portfolio is variable over time, expanding, and becoming more diversified

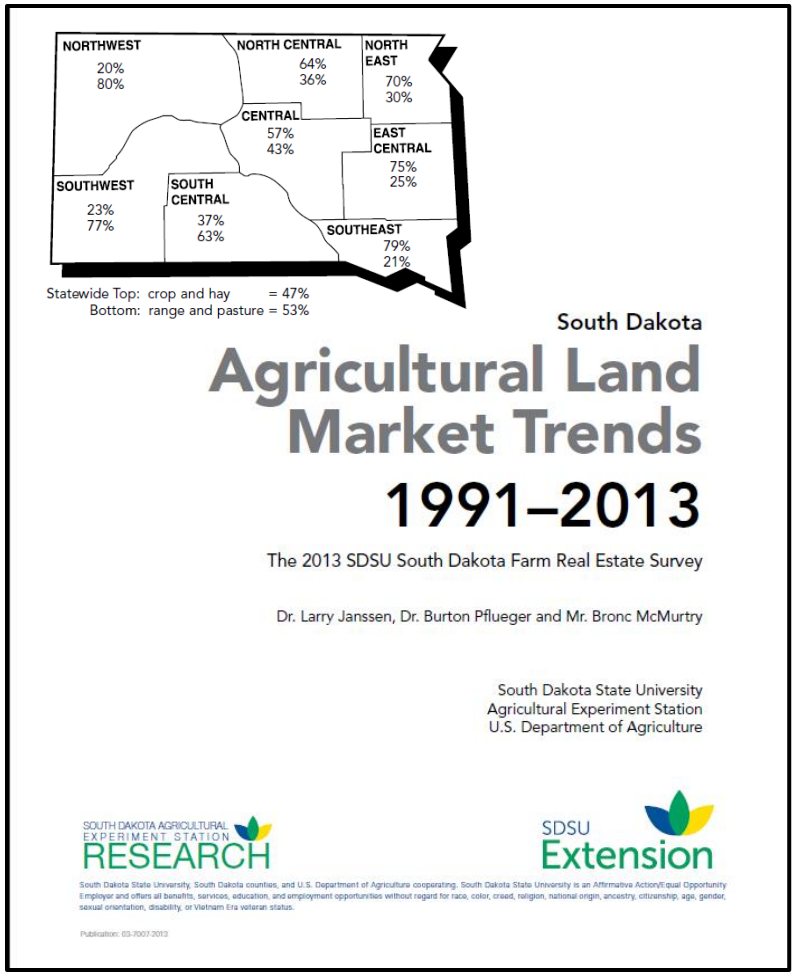
Table 1. Share of Exports Going from US to Ind. Countries					
	Beef				
	1990-1994	*1995-1999*	*2000-2004*	*2005-2009*	*2010-2013*
Canada	19%	13%	10%	20%	18%
China (Mainland)	0%	0%	0%	0%	0%
China (Taiwan)	1%	1%	2%	5%	4%
Hong Kong	1%	1%	2%	2%	9%
Japan	51%	51%	38%	10%	19%
Mexico	12%	14%	26%	43%	17%
Russia	0%	3%	1%	1%	4%
South Korea	11%	12%	19%	5%	12%
Other	4%	4%	4%	14%	18%
Total	100%	100%	100%	100%	100%

Land Values and Cash Rents

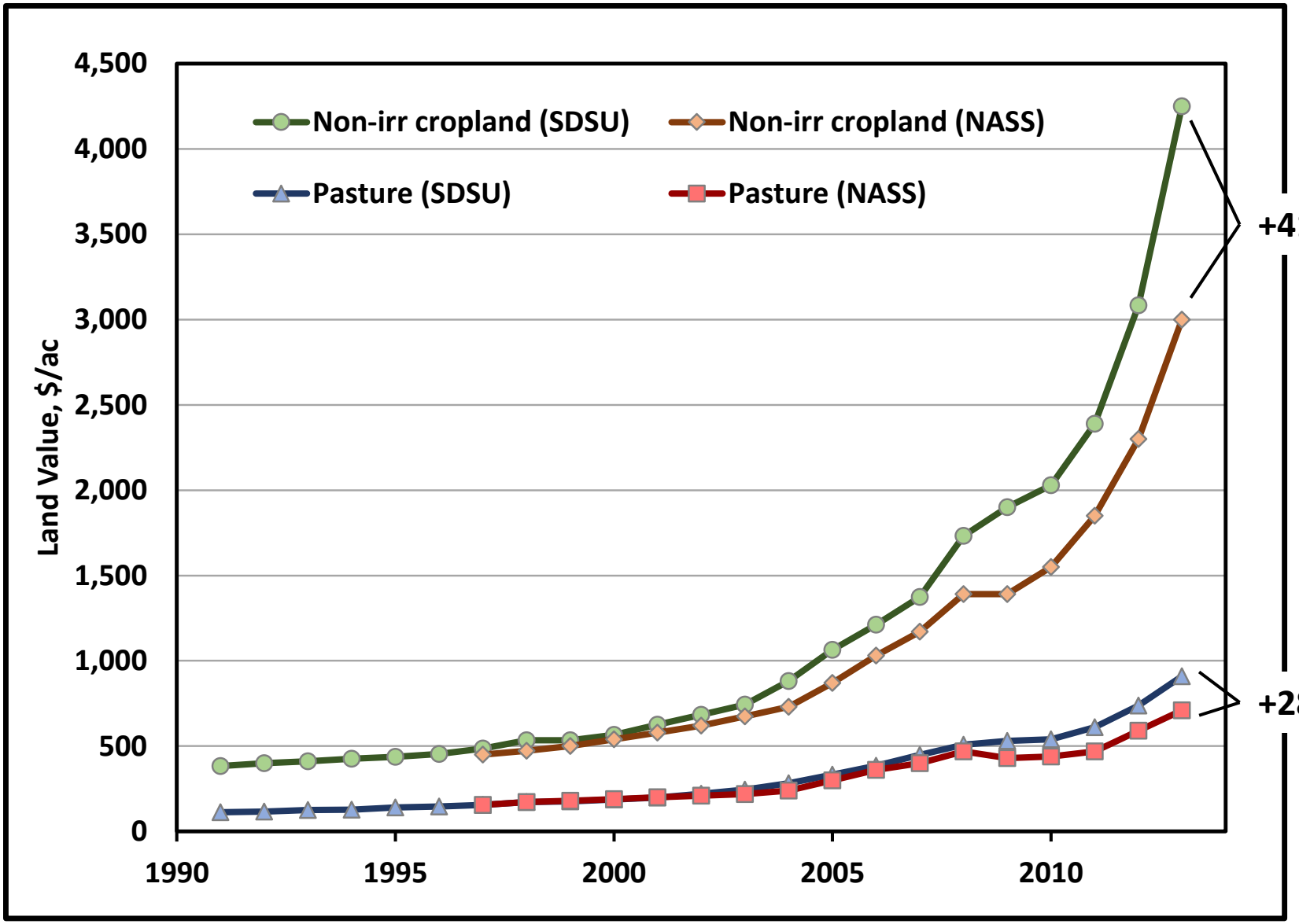
Land Values – *Definitely has been a hot topic!*

Where do we get information on land values?

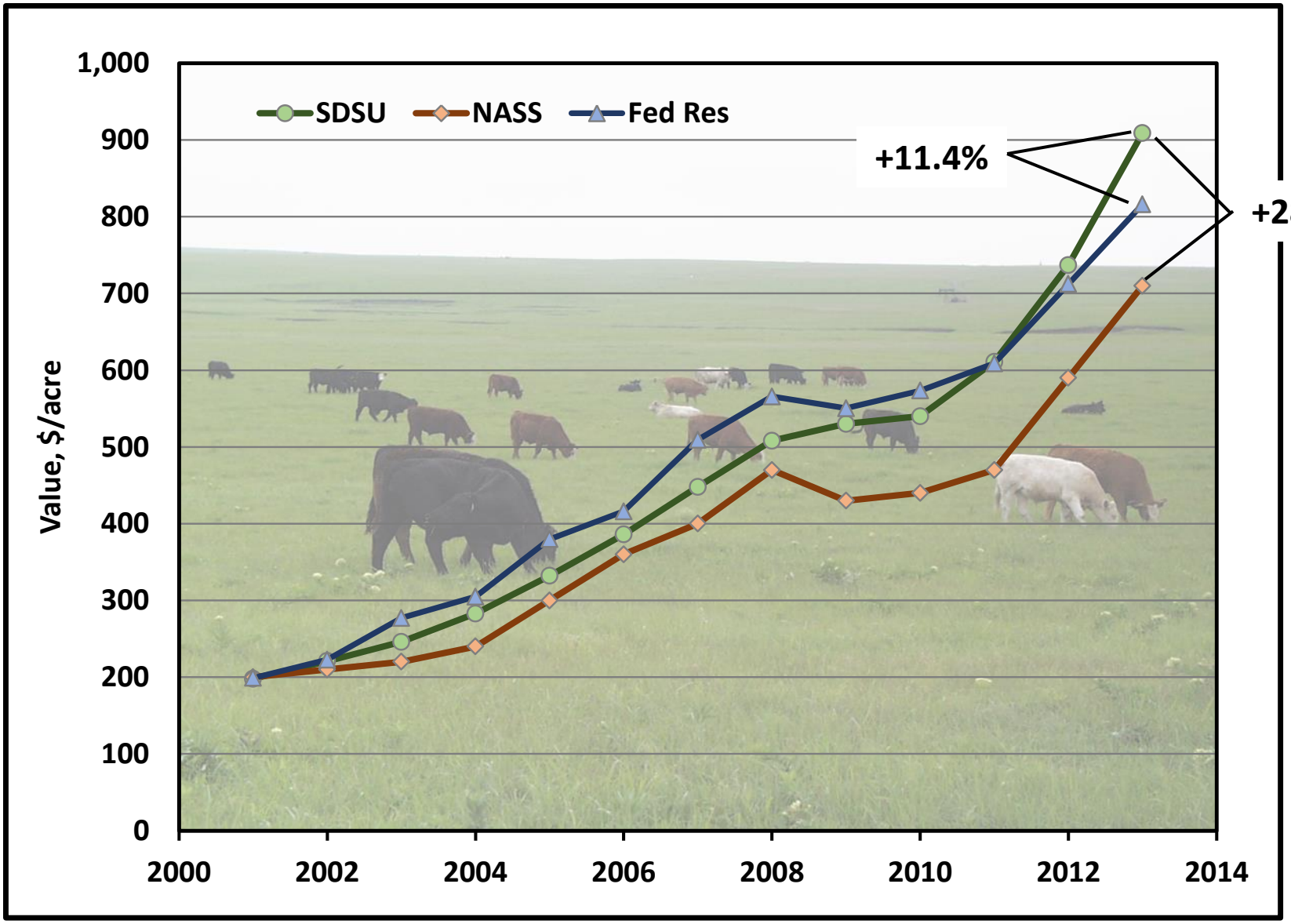
- **USDA NASS ($/ac)**
  - **Annual survey series (state level)**
- **Federal Reserve (% chg)**
  - **Quarterly survey (multi-state level)**
- **SDSU ($/ac)**
  - **Annual survey (regional level)**
- **Actual sales data?**



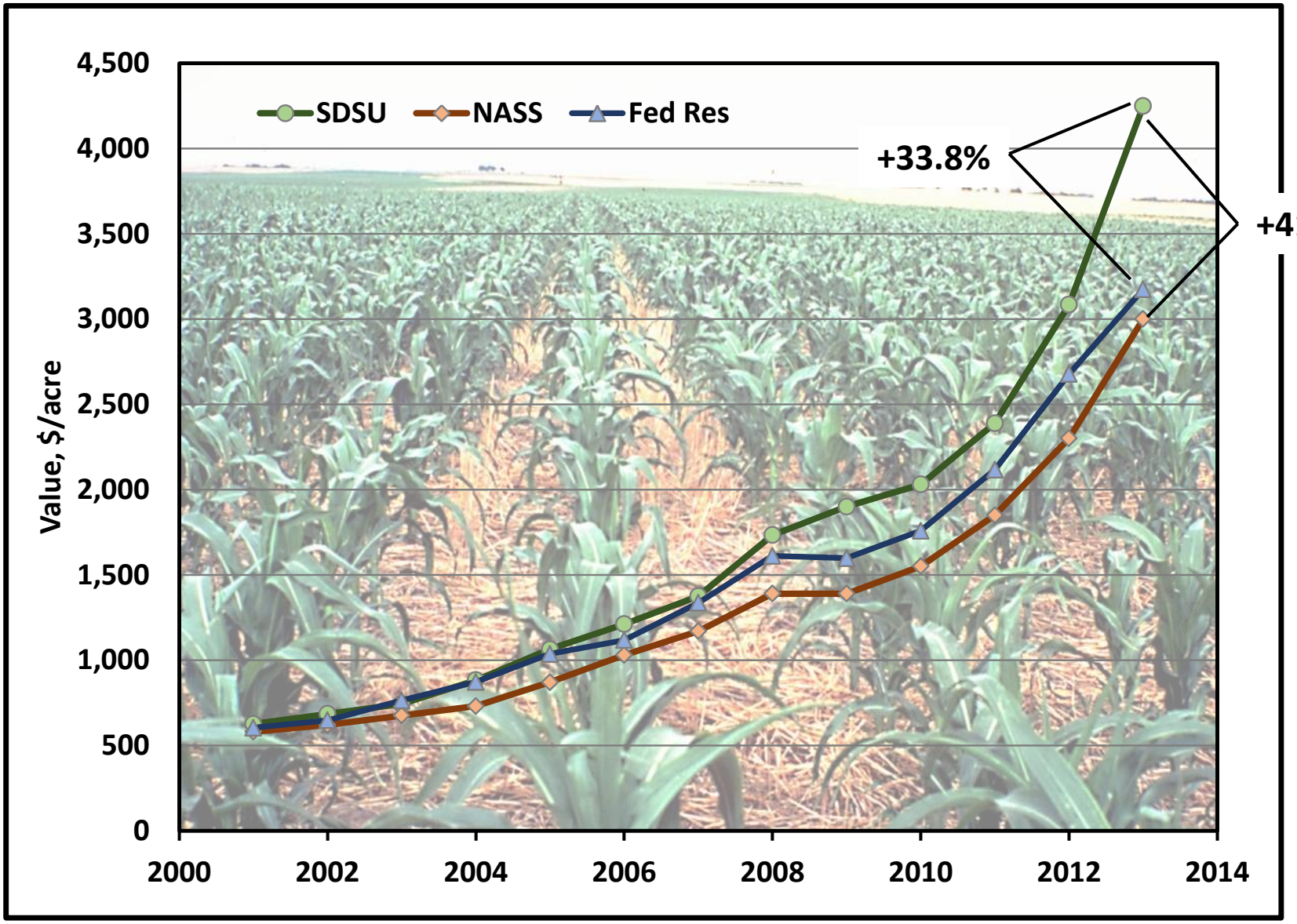
South Dakota Land Values (Source SDSU & NASS surveys)



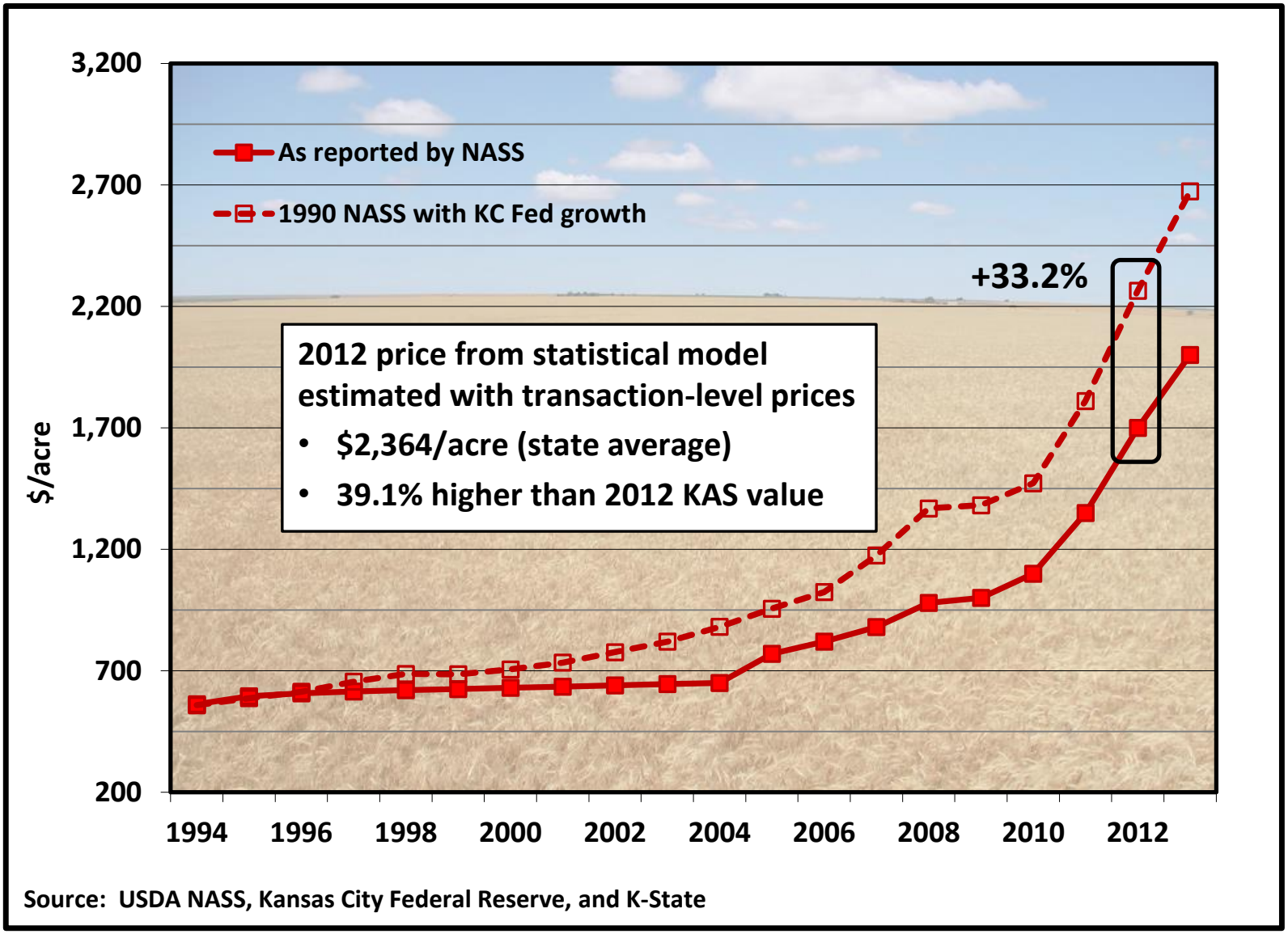
South Dakota Pasture/Ranchland Values



South Dakota Non-irrigated Cropland Values

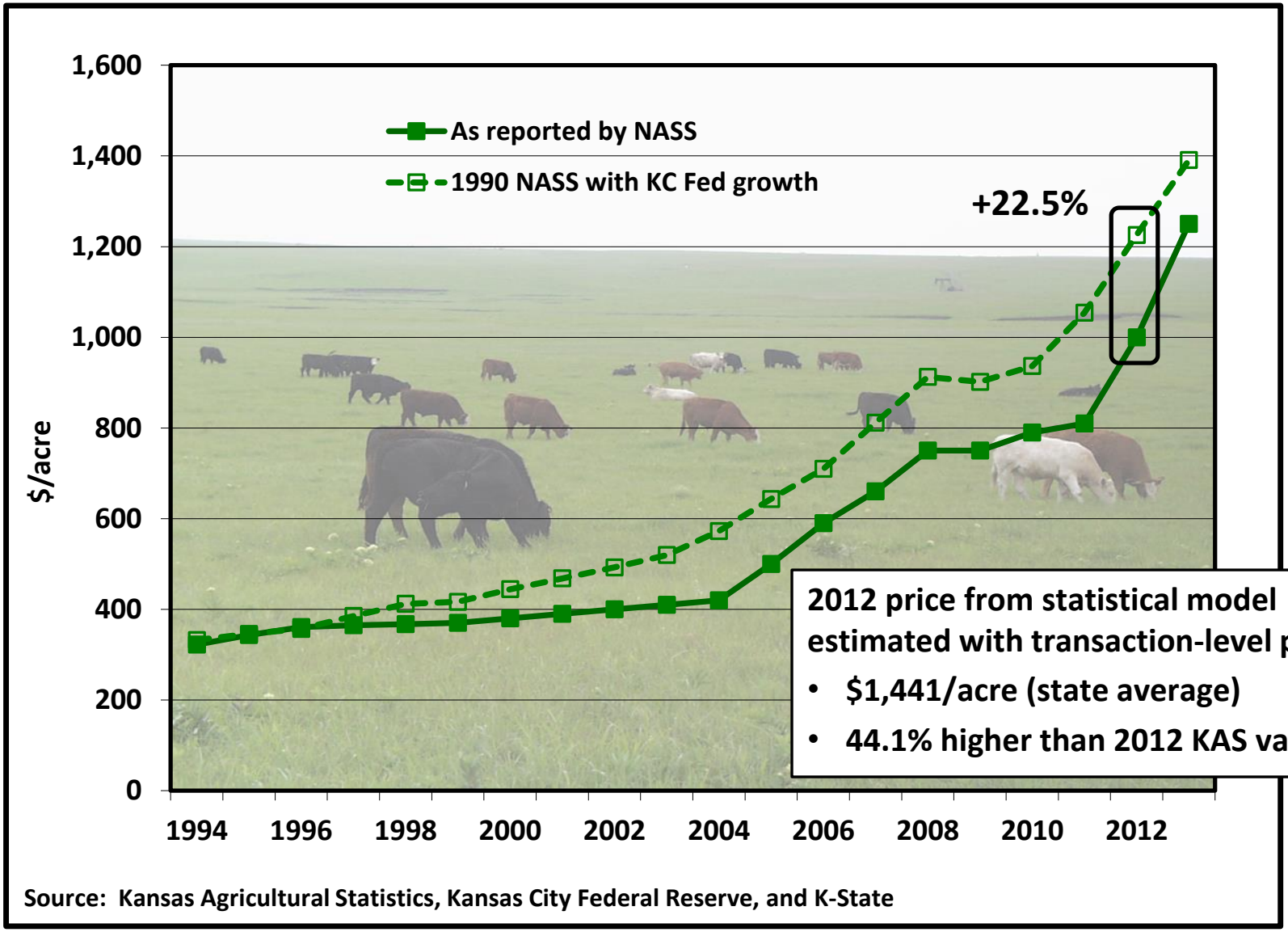


Kansas Non-irrigated Cropland Values

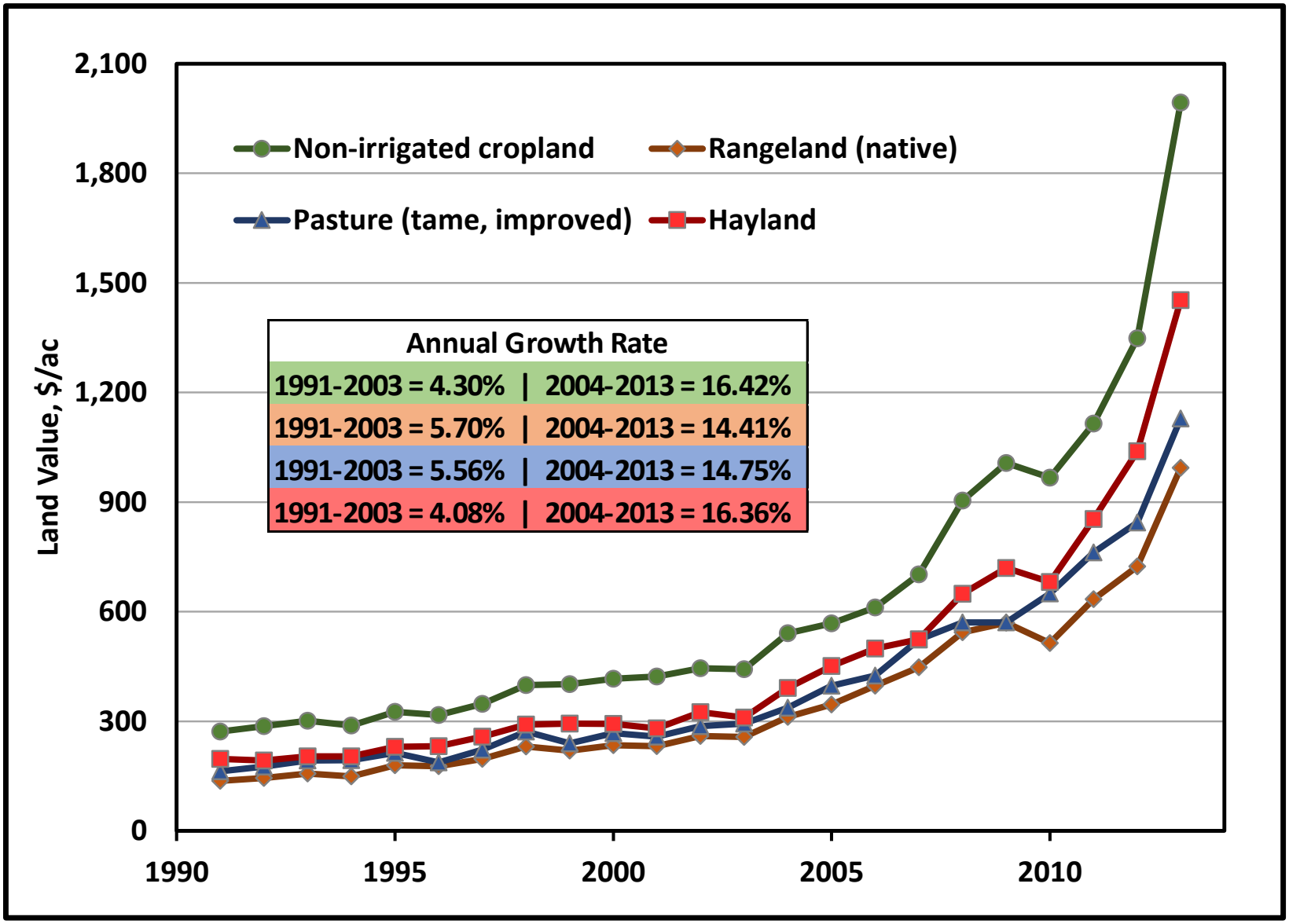


Source: USDA NASS, Kansas City Federal Reserve, and K-State

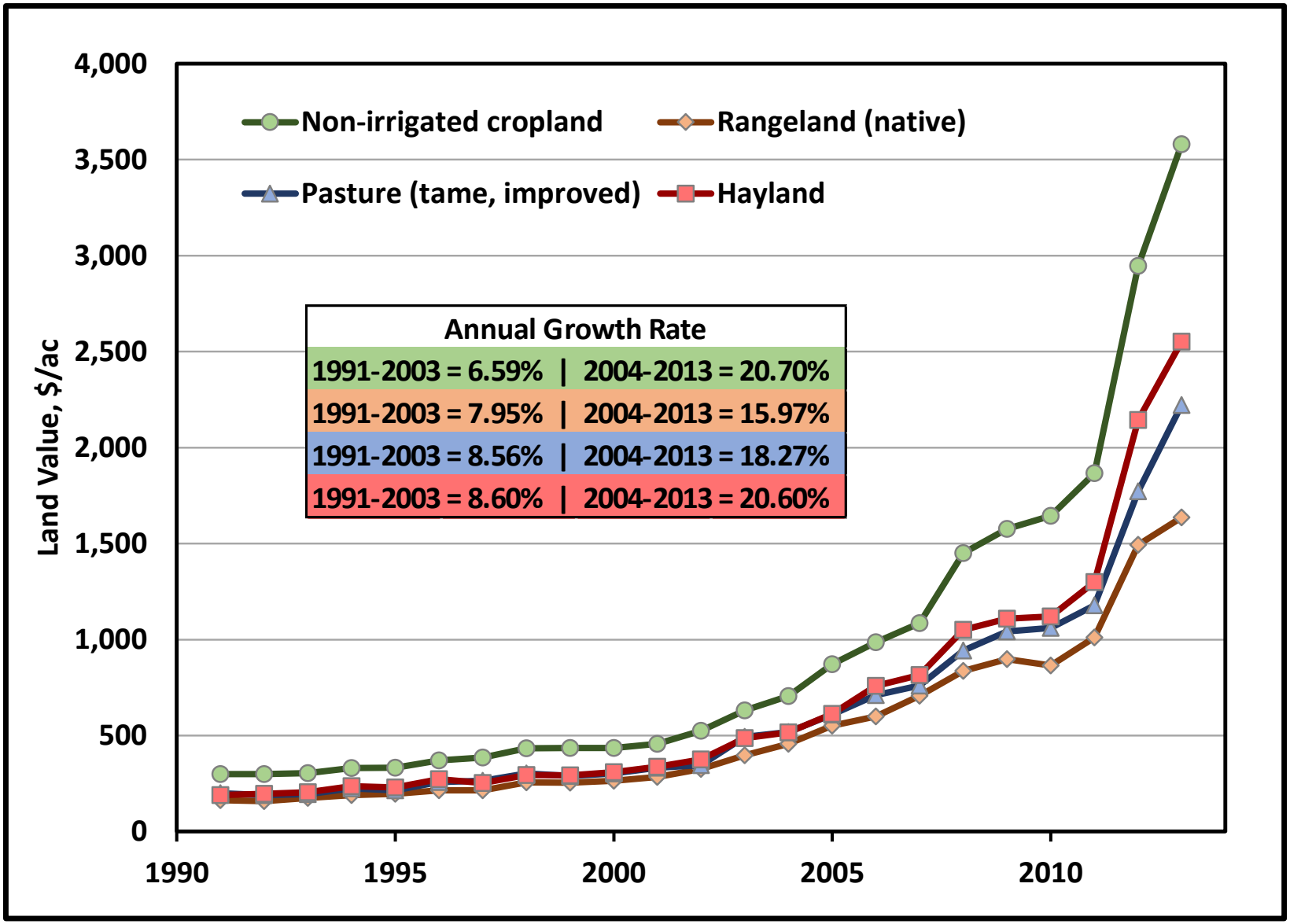
Kansas Pasture Land Values



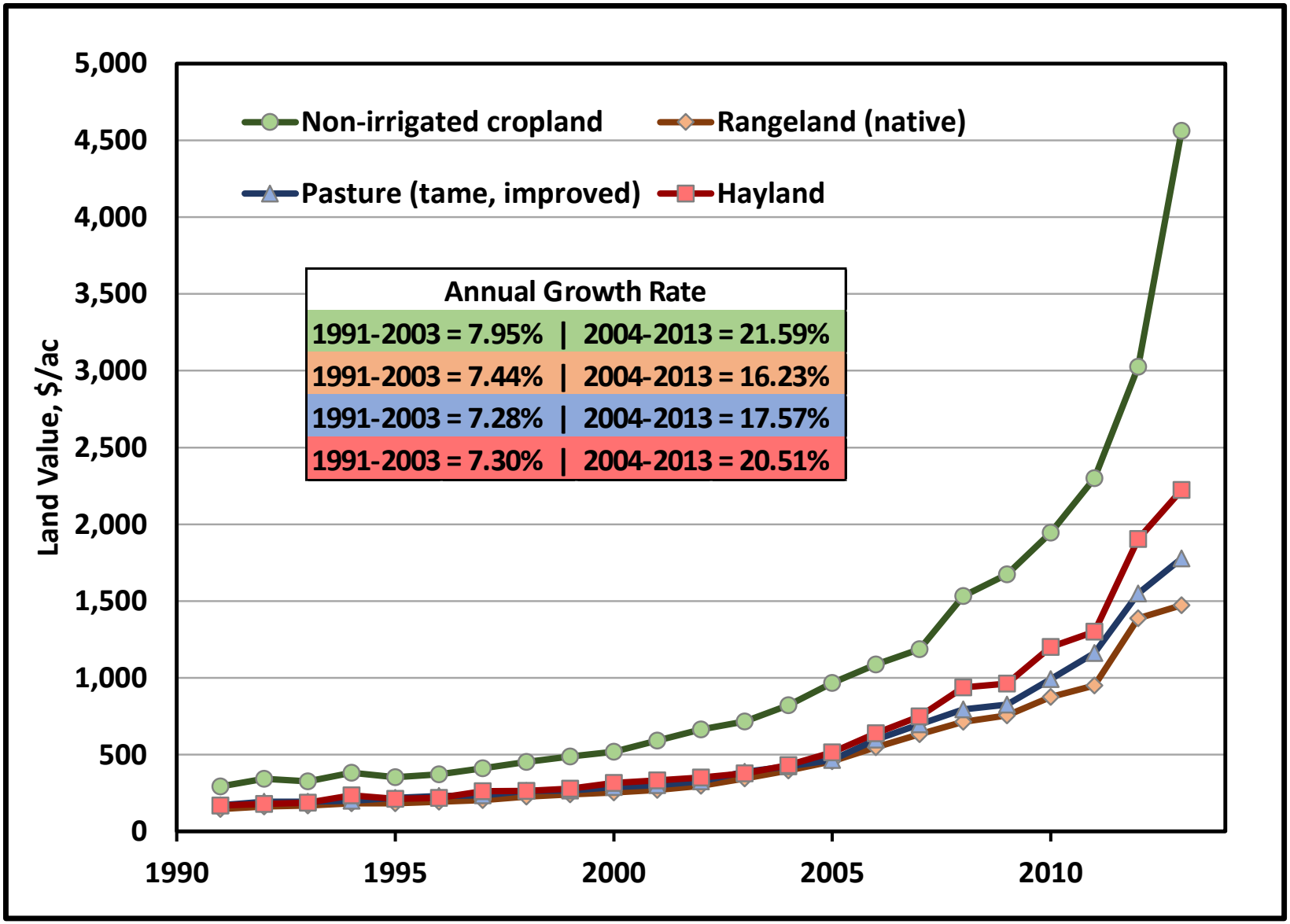
South Central SD Land Values (Source SDSU survey)



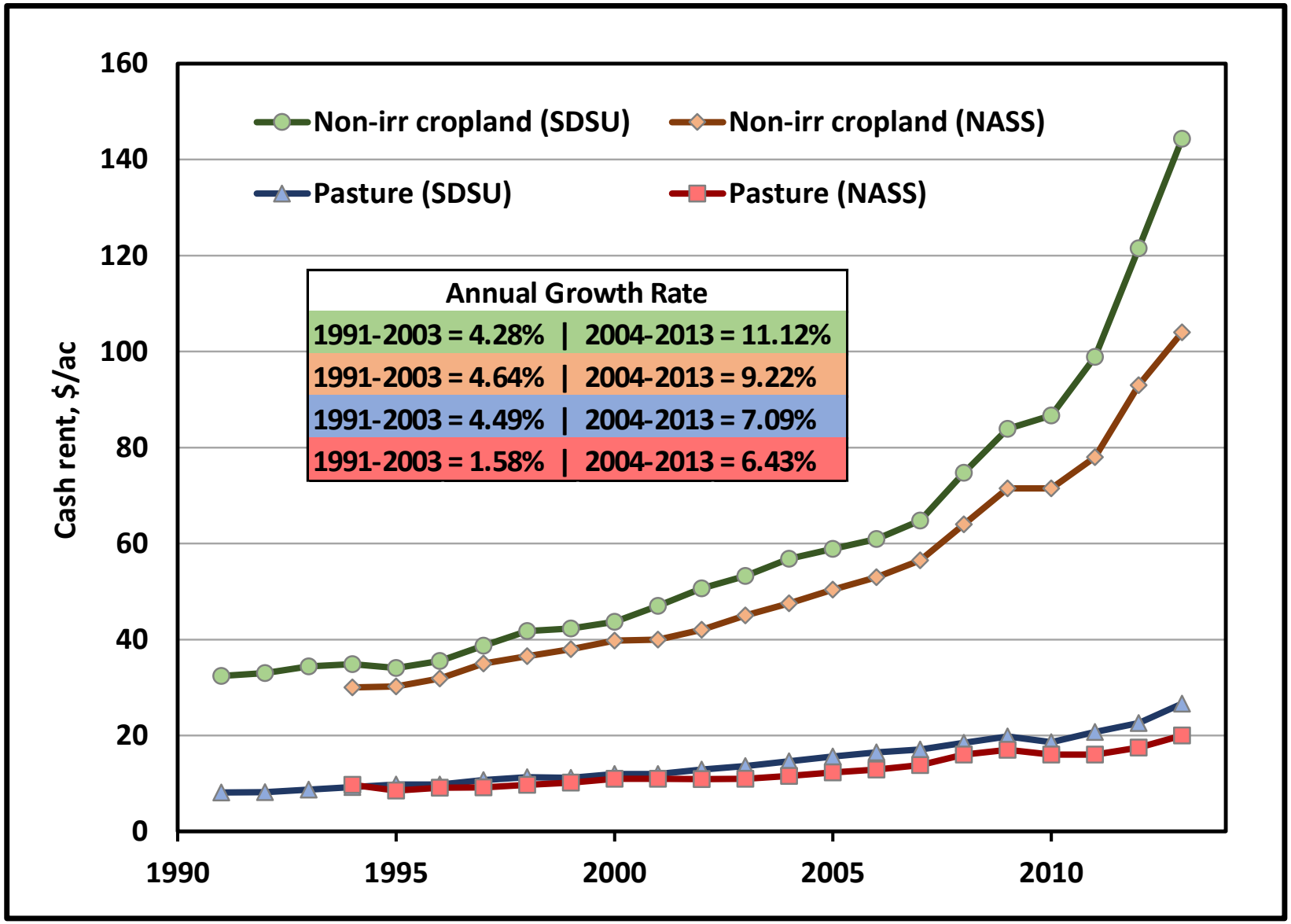
Central SD Land Values (Source SDSU survey)



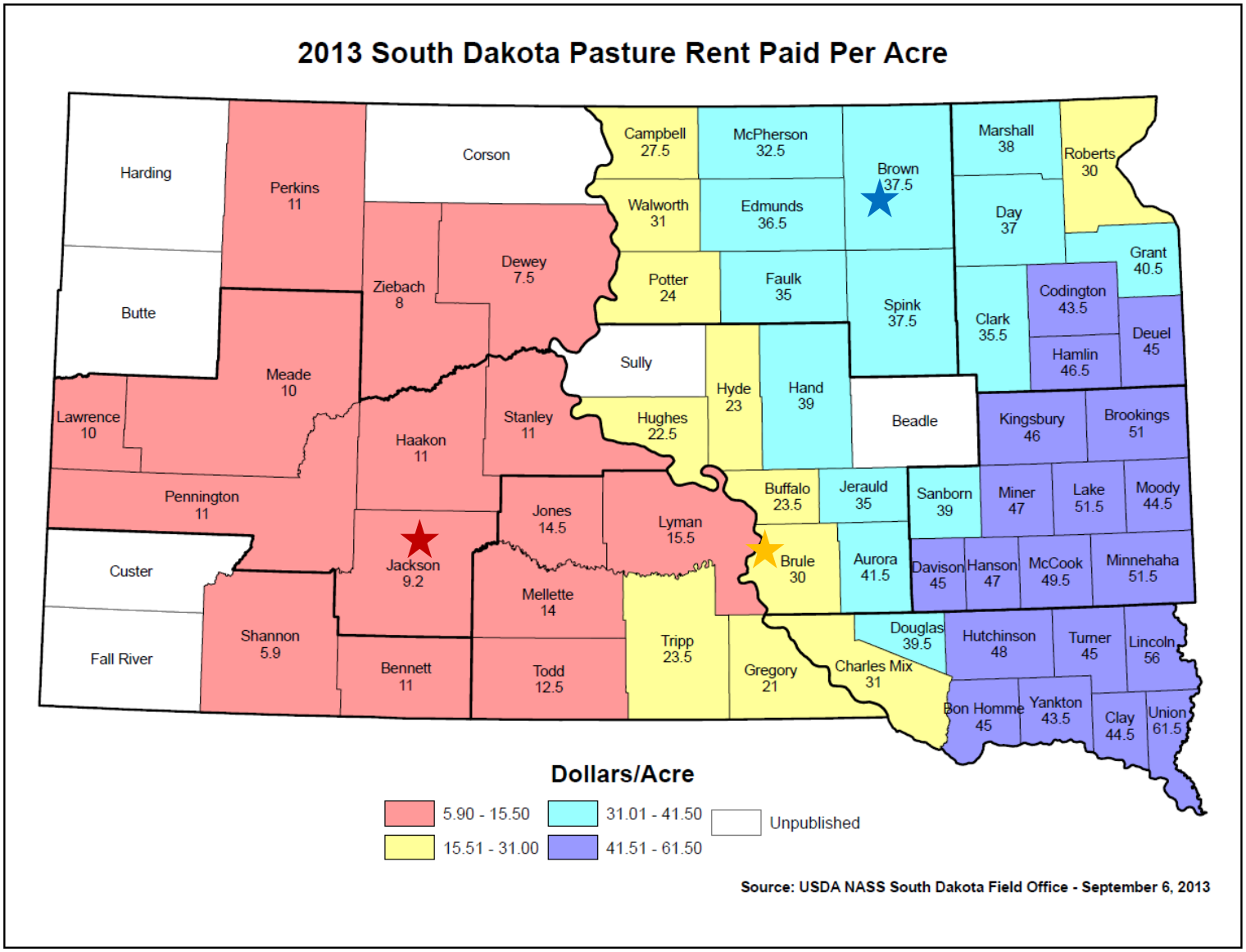
North Central SD Land Values (Source SDSU survey)



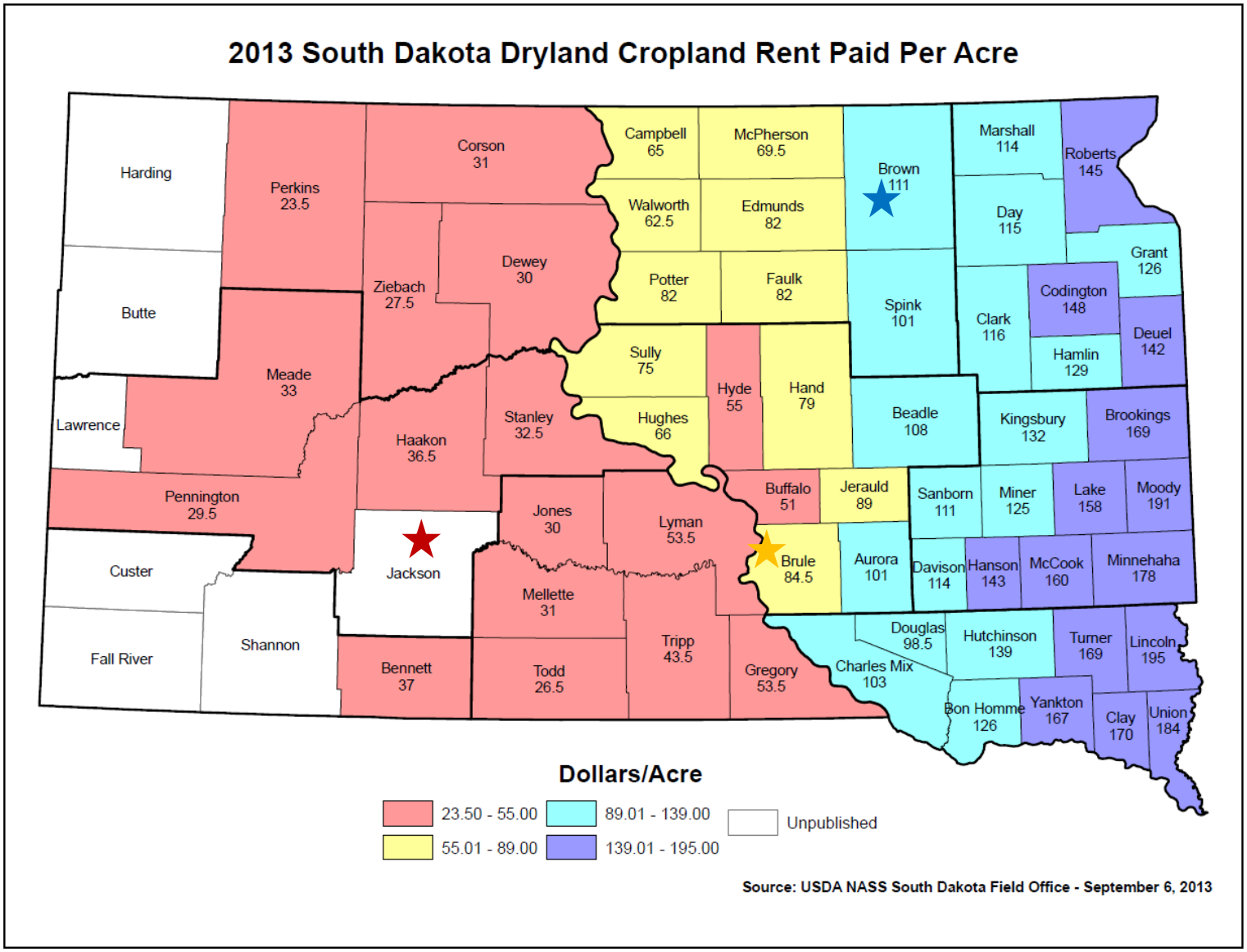
South Dakota Cash Rent Values



South Dakota Pasture Cash Rent (Source NASS survey)

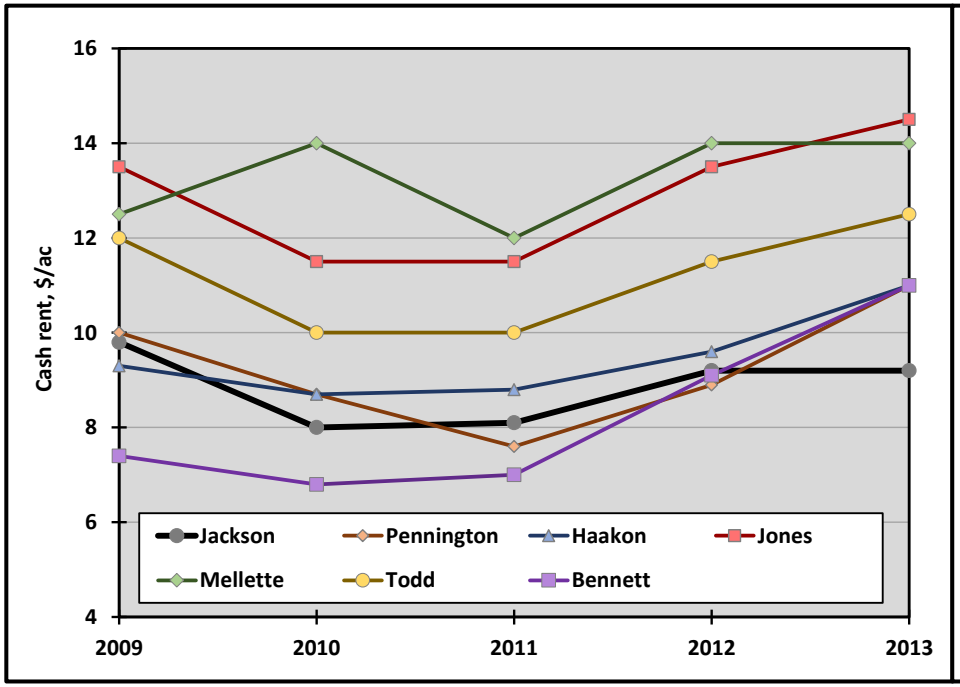


South Dakota Cropland Cash Rent (Source NASS survey)

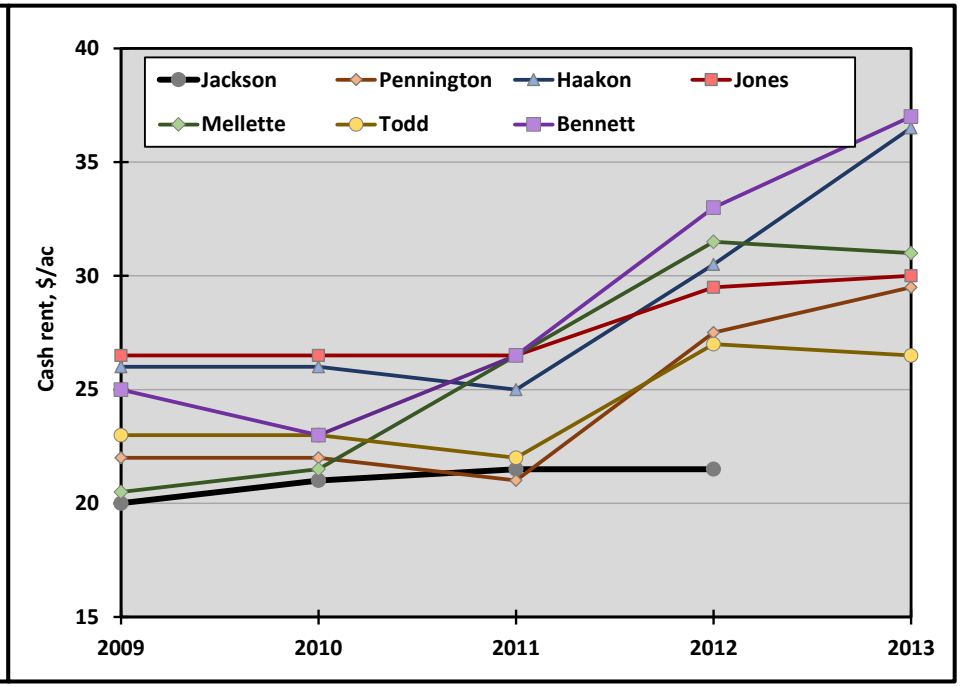


South Dakota Cash Rent, 2009-13 (Source NASS survey)

Pasture



Non-irrigated Cropland

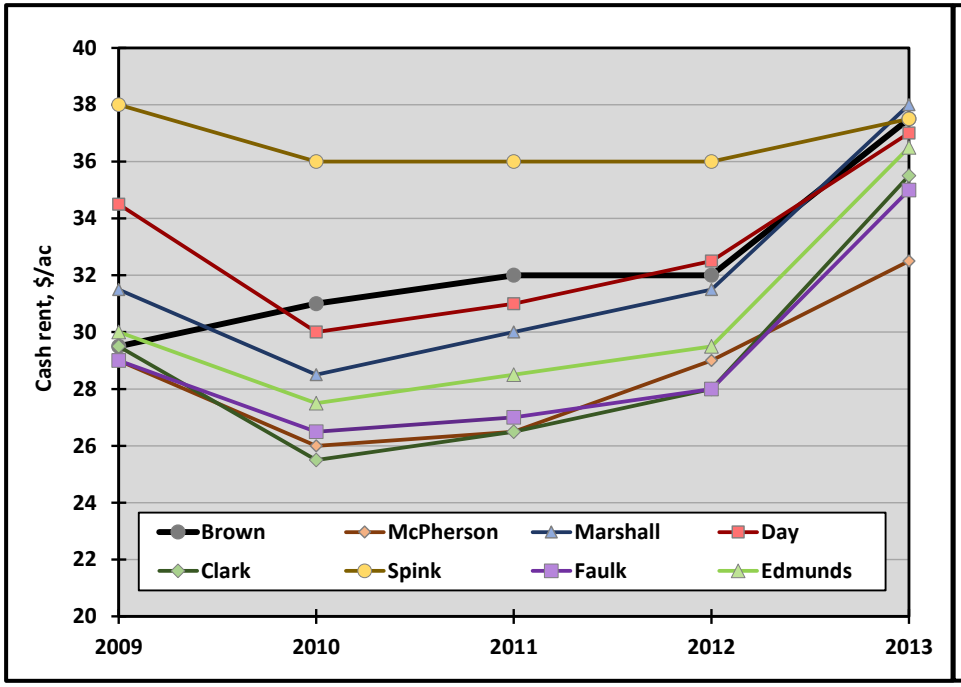


Potential issues/problems with data:

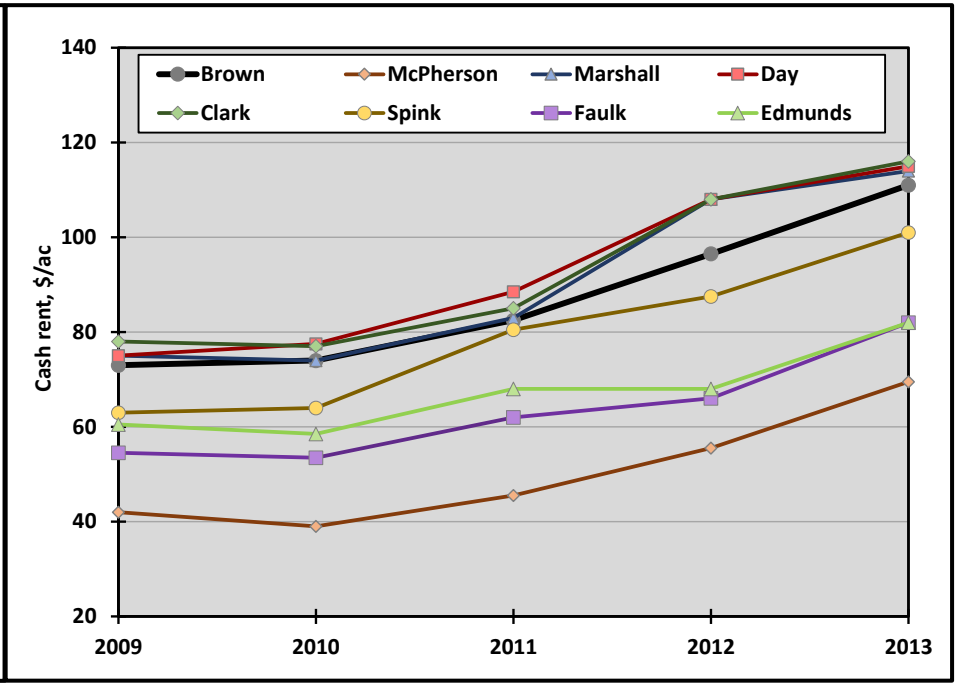
1. **Not always available when needed**
2. **Slow to change? Is that a problem?**
3. **Reflects an average for a county – individual land/situations vary**
4. **Considerable variability from county to county (quality or different market?)**

South Dakota Cash Rent, 2009-13 (Source NASS survey)

Pasture



Non-irrigated Cropland



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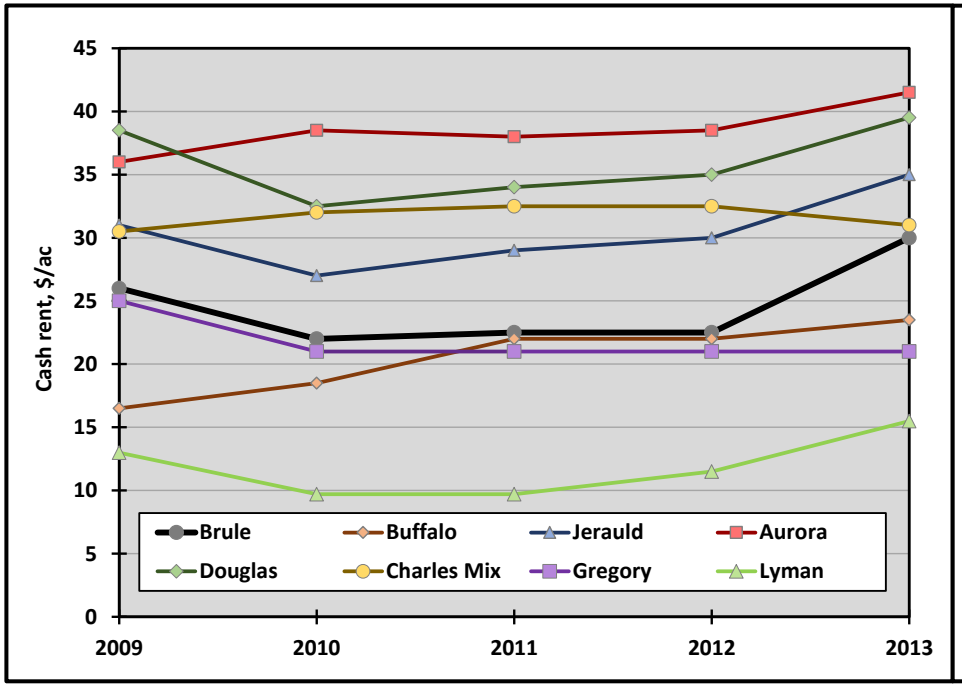
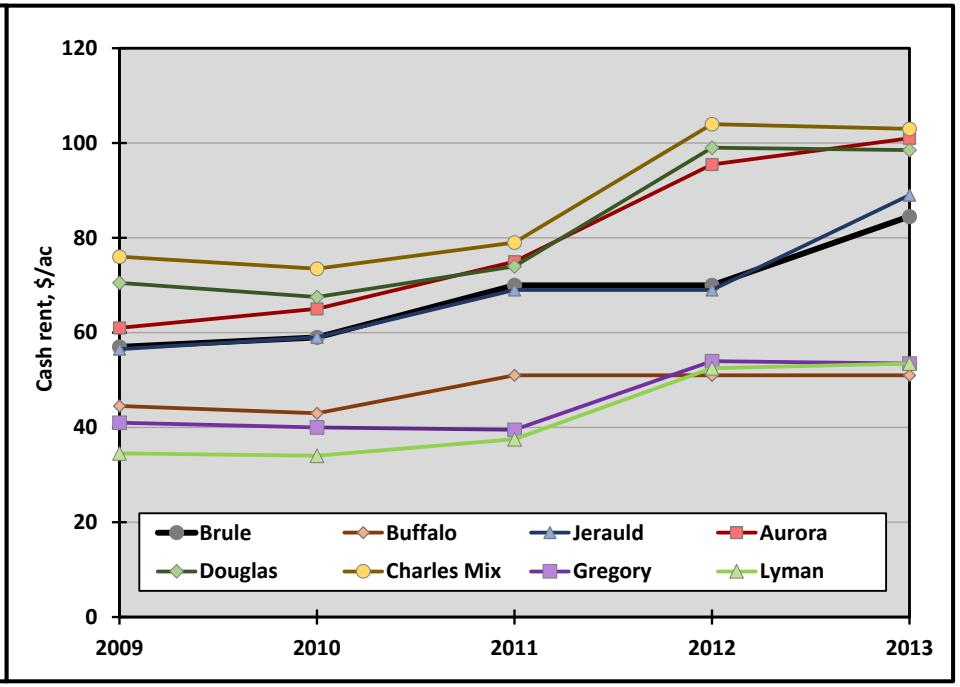
South Dakota Cash Rent, 2009-13 (Source NASS survey)

Pasture



Non-irrigated Cropland



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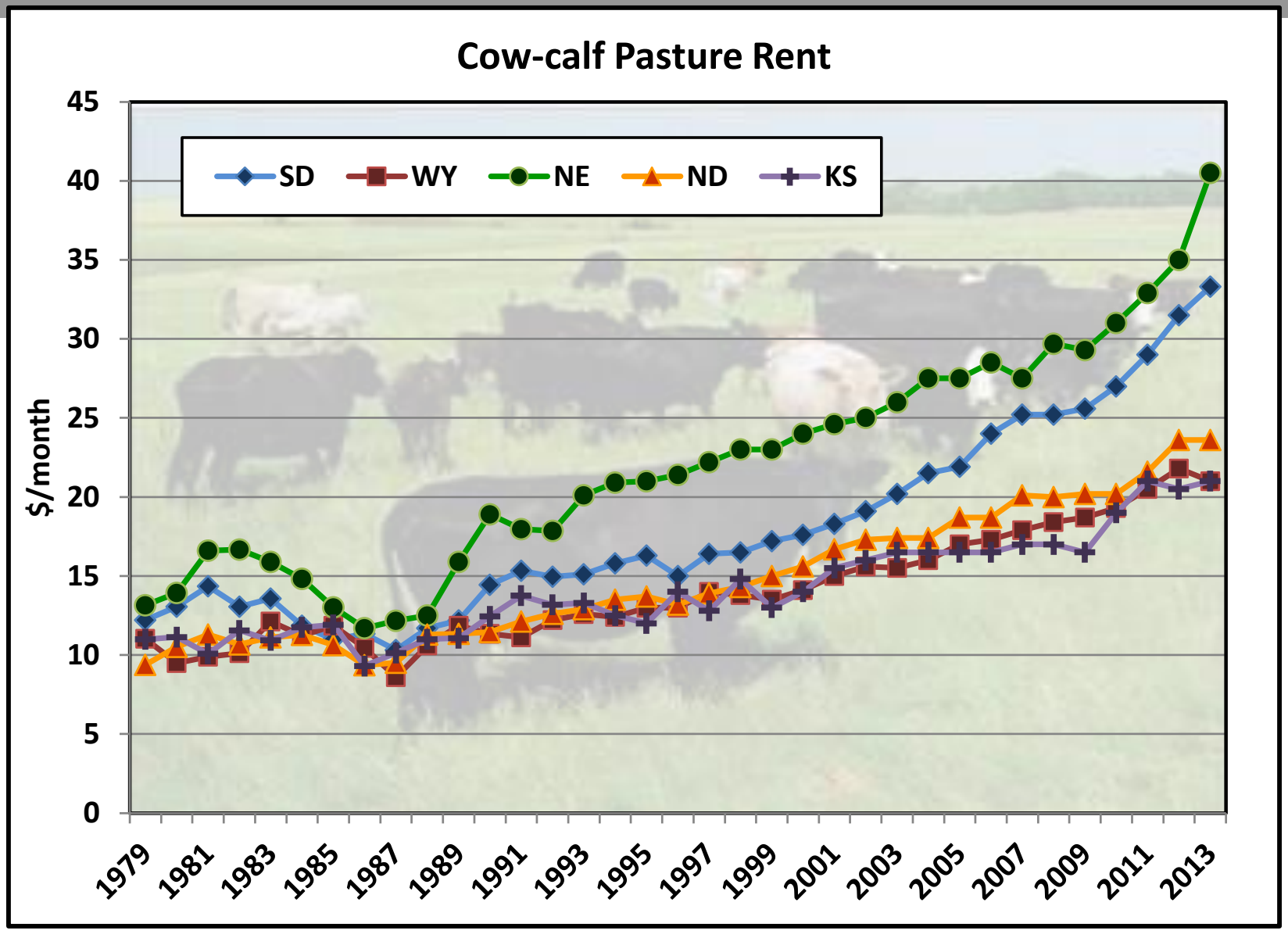
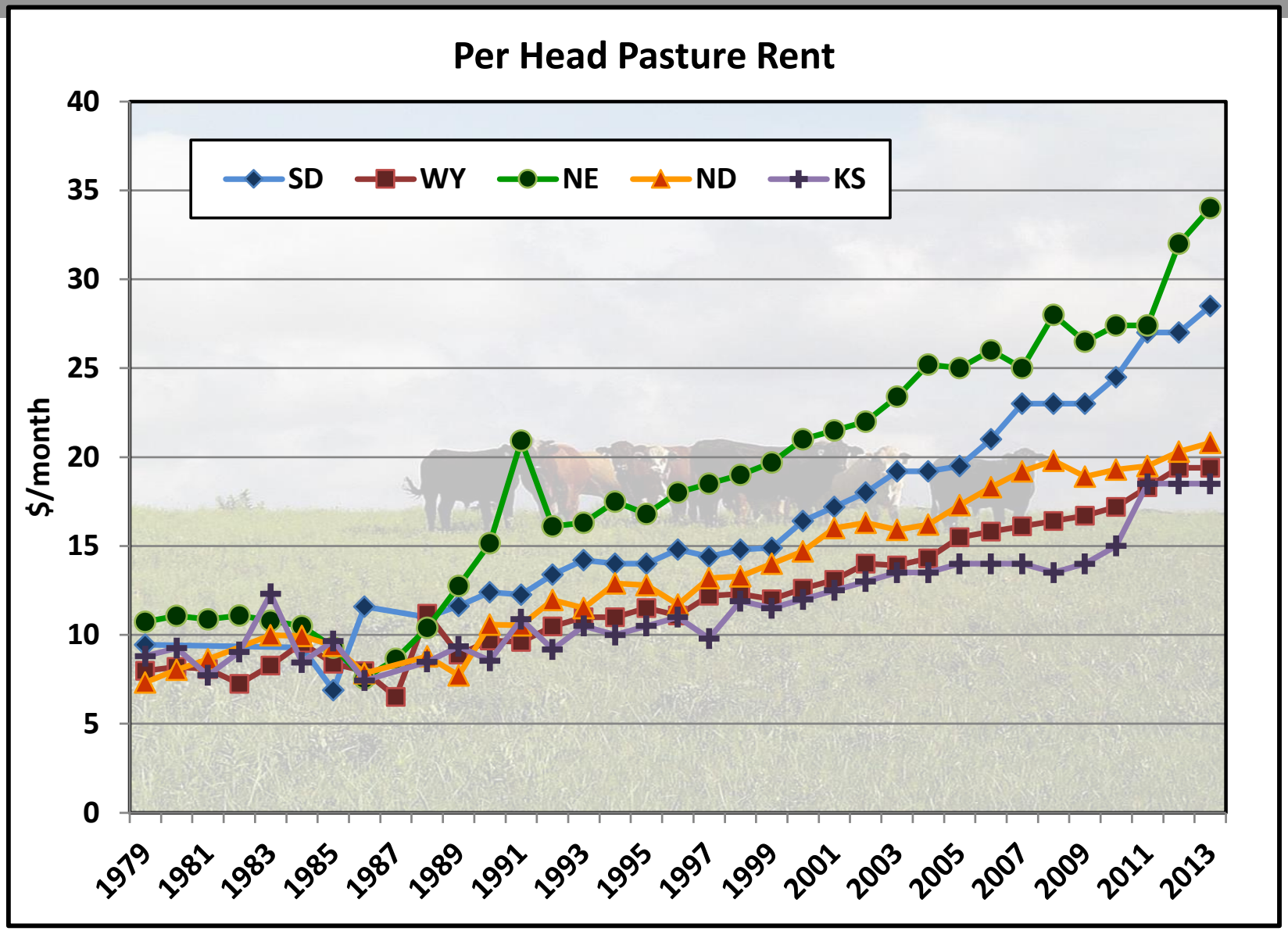
A better source of pasture rent data???



Source: USDA NASS Prices Paid Survey

A better source of pasture rent data???



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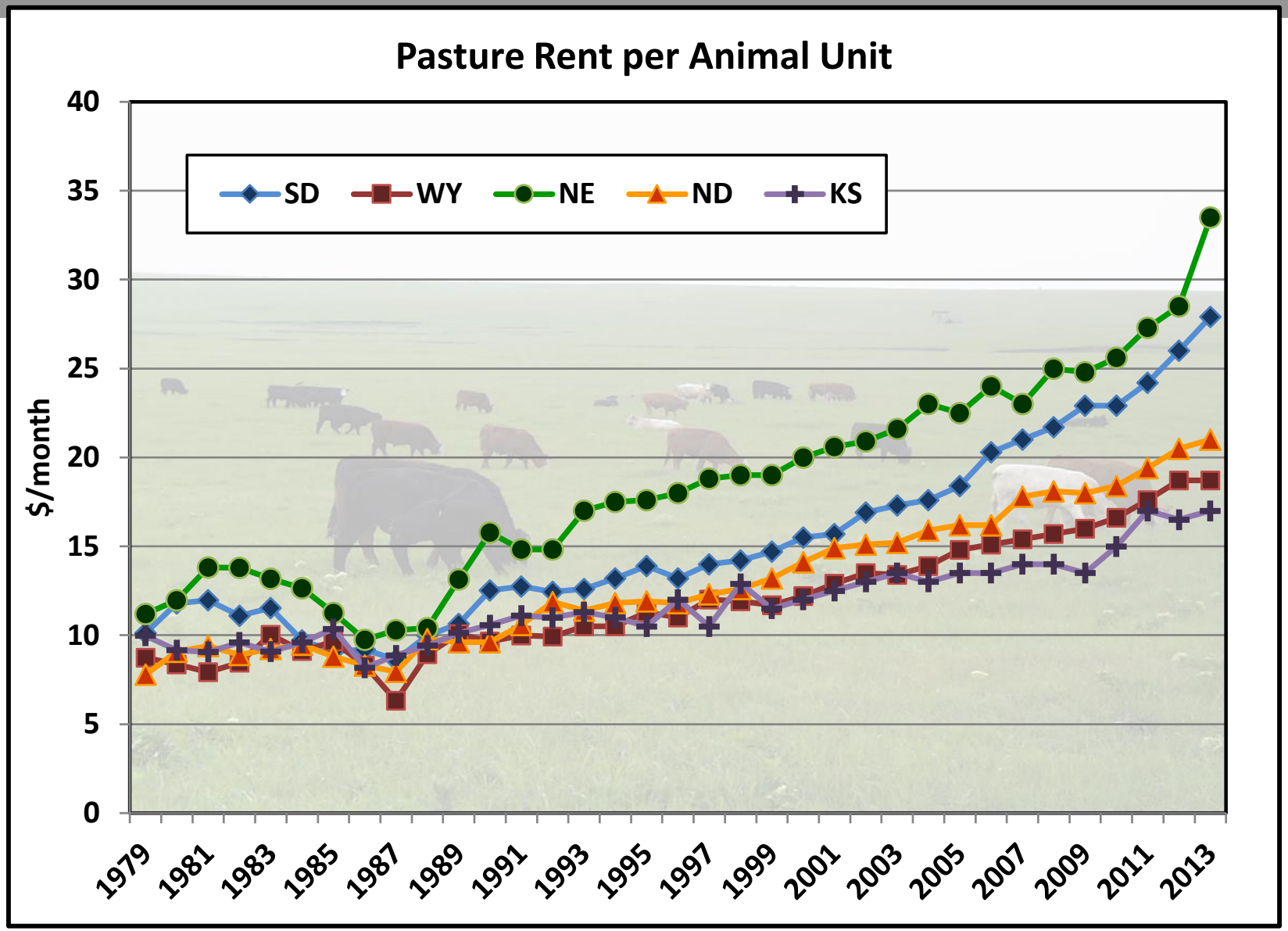


Source: USDA NASS Prices Paid Survey

What factors drive these averages…

- **Rate = f(year, feeder cattle futures, corn futures)**
  - **Estimated models for the following (data from 1979-2013):**
    - **$/AUM**
    - **$/month (cow-calf)**
    - **$/month (rented per head)**
  - **Linear time trend, April FC futures in March, May CN futures in March, state dummy variables, log rent**
  - **R-square values ~ 0.94 (model fit data very well)**
  - **Time trend, corn price, and feeder cattle are positive and significant (exception is corn in $/month model – not significant)**

What drives these averages…

Model-predicted rents for 2013 and 2014*

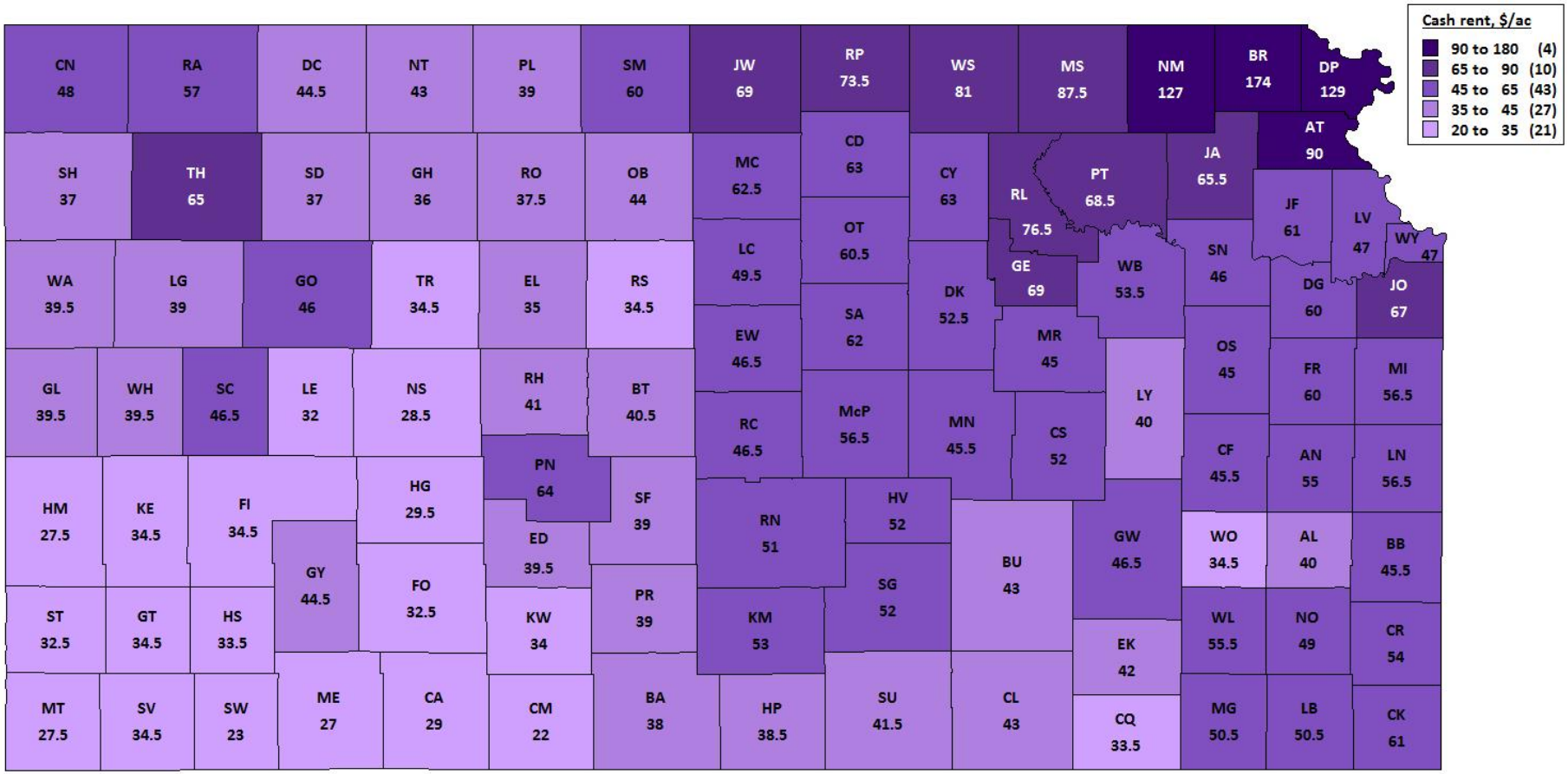
	$/AUM	$/mo (cow-calf)	$/mo (per head)
South Dakota			
2013 actual	27.90	33.30	28.50
2013 prediction	24.90	29.44	28.67
2014 prediction	25.40	30.31	26.43
Percent change	+2.0%	+3.0%	+8.5%
2014 value?	28.46	34.30	30.92

*** Corn price = $7.15 (2013) and $4.85 (2014)**
Feeder cattle price = $141 (2013) and $176 (2014)

Rental Rates – Non-irrigated crop example

- **Another way to obtain an estimate of cash rental rates for non-irrigated cropland**
  - **Budgeting approach that reflects *expected* returns to farming**
  - **Marginal rental rate versus average rental rate**
- **Calculate crop share revenues based on long-term profit expectation and apply a risk premium**

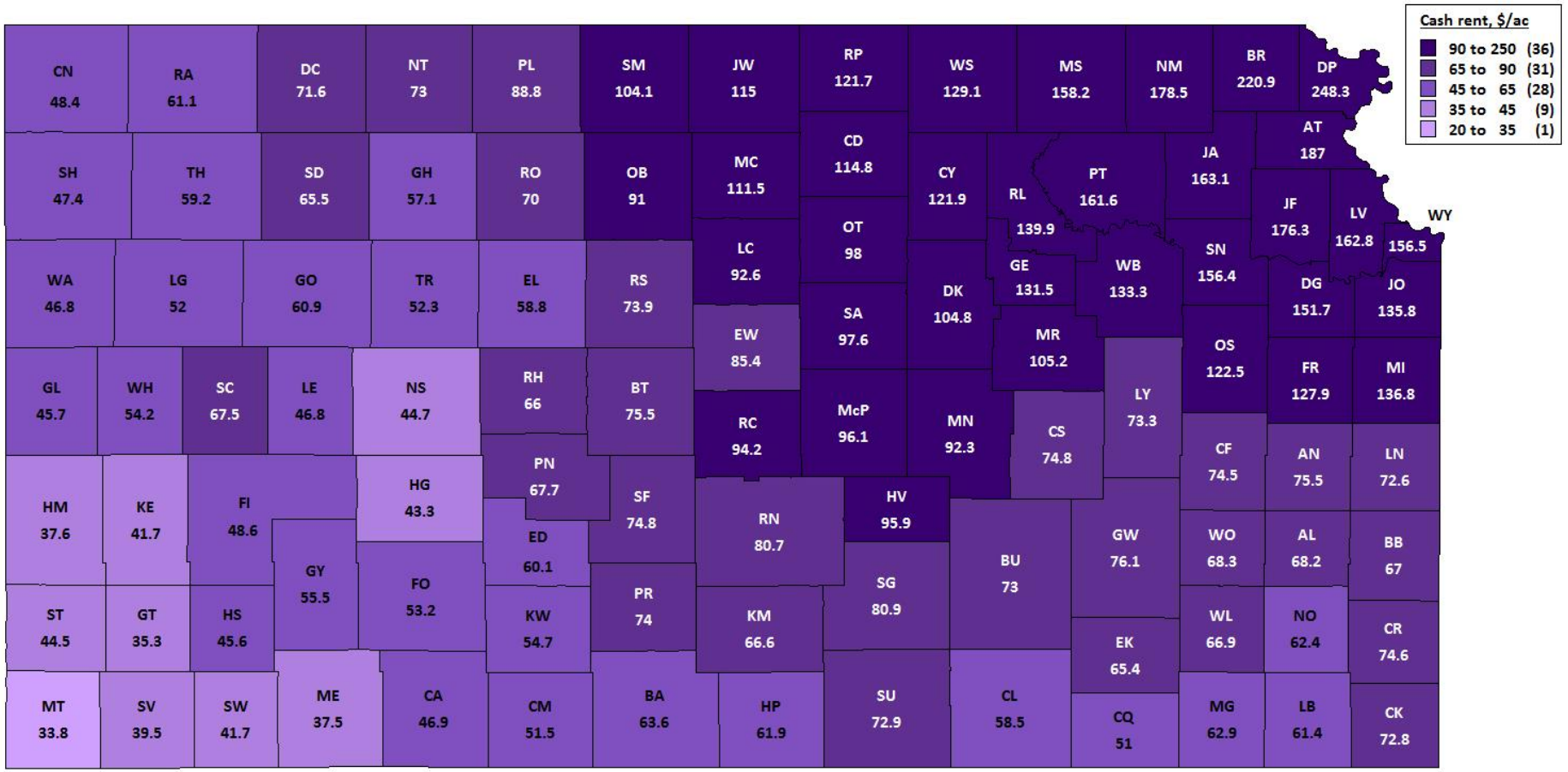
KAS-survey values of Kansas Non-irrigated Cash Rents, 2013*



*** 19 counties with no values reported were "filled in" with multi-county average values reported for the corresponding region.**

Simple average across 105 counties = $50.06

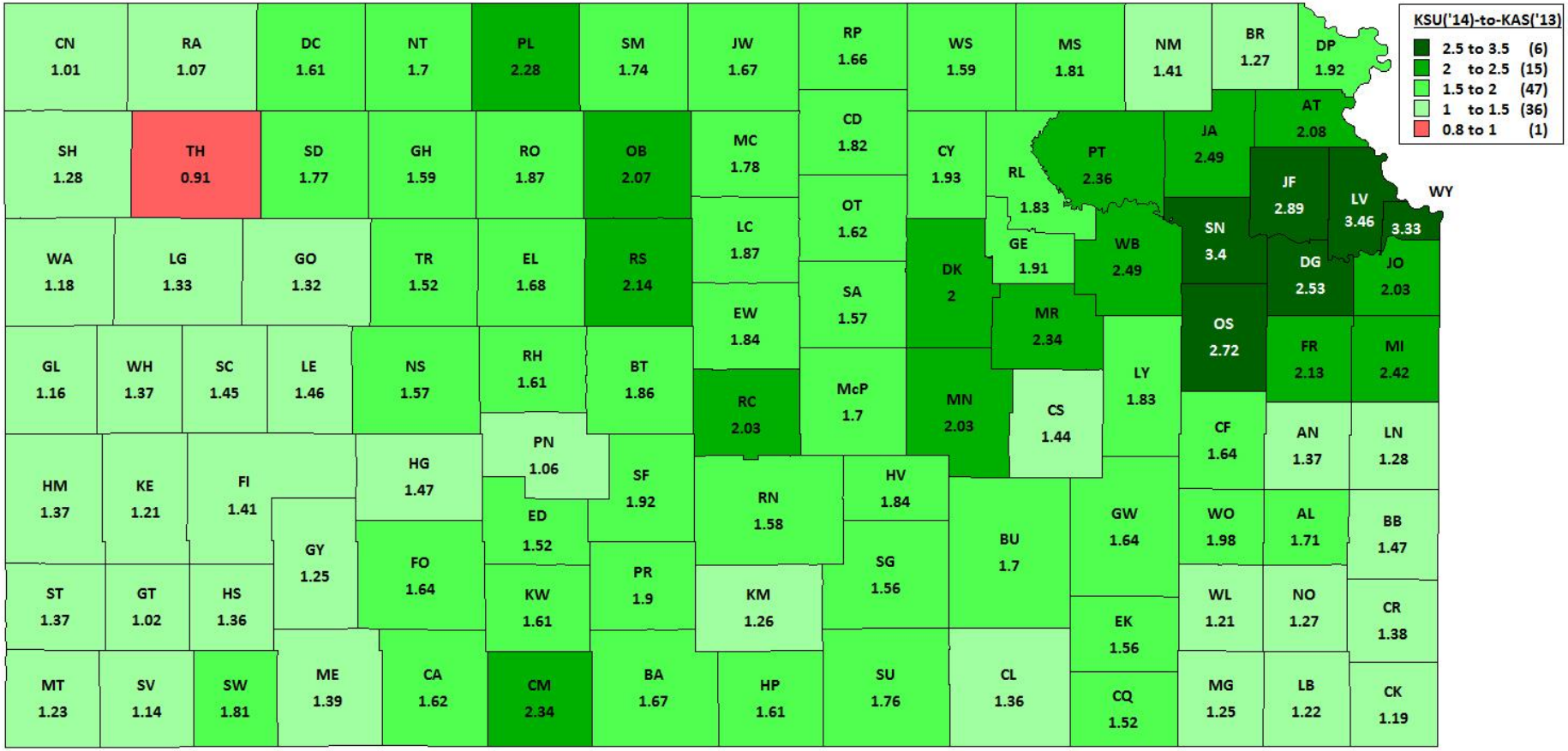
KSU-Estimated Kansas Nonirrigated Cash Rents, 2014*



*** Estimated in December of 2013 based on county-average yields and regional prices and using an equitable net share lease (adjusted for risk) approach.**

Simple average across 105 counties = $85.91

Ratio of KSU 2014 estimate to KAS 2013 average*



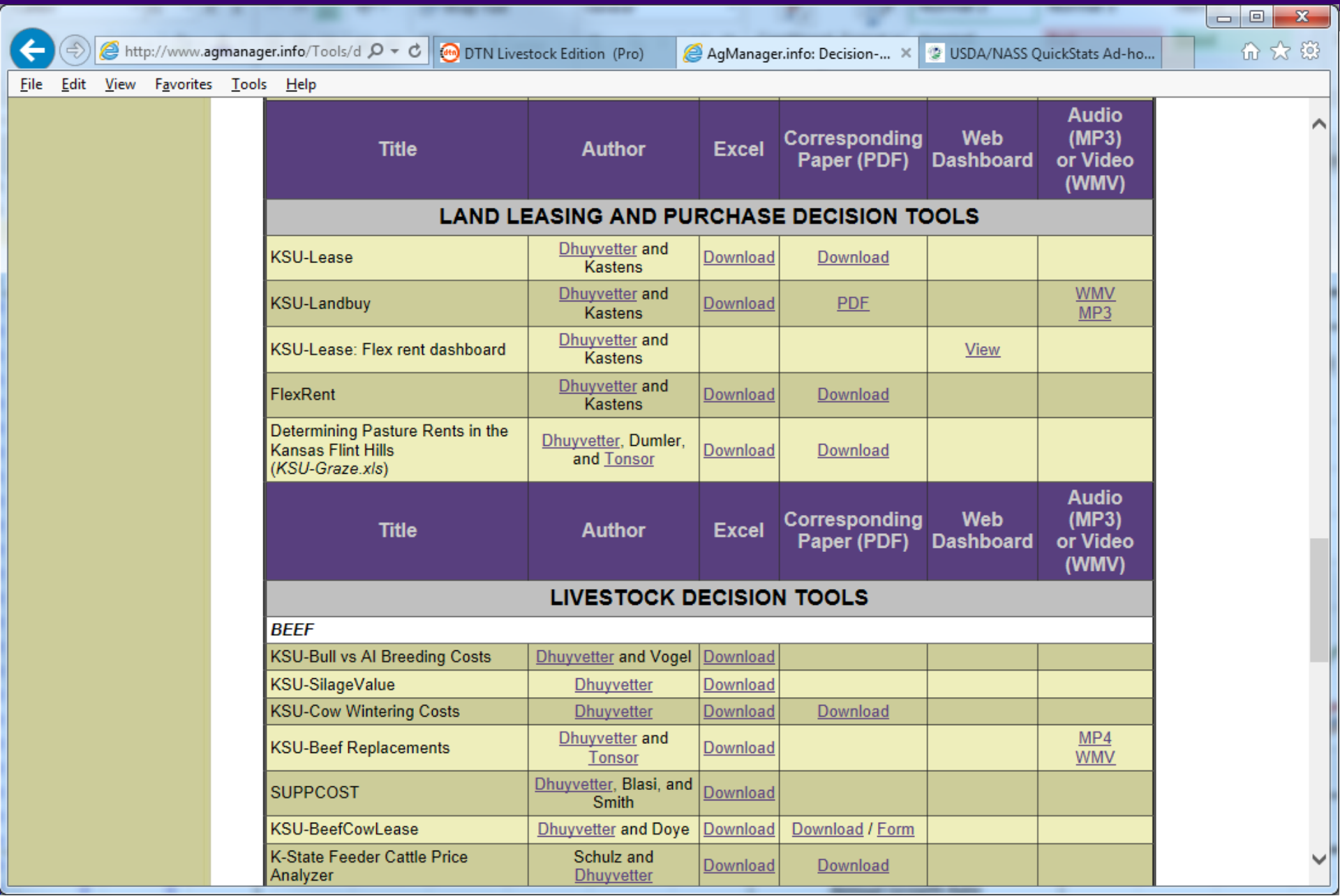
*** Values reflect the amount the KAS 2013 value would need to be multiplied by to equal the KSU estimated value for 2014. For example, a value of 1.70 would imply the KSU estimate was 70% higher than the KAS value.**

Average ratio = 1.71 (min = 0.91 and max = 3.46)

Rental Rates

- **Large differences between KAS survey and KSU-Lease estimates. Why?**
- **Surveys reflect many things**
  - **Multi-year fixed rate leases (we don't know lease terms)**
  - **Differences in productivity of land and tenant**
  - **"Relationship" benefits for landowner**
- **Cash rent estimates use <u>expected</u> prices**
  - **Can and do change as we move forward**
  - **Rents will adjust to reflect these differences**
- **Are things similar or different for pasture?**

Excel spreadsheets and web dashboards on AgManager



Title	Author	Excel	Corresponding Paper (PDF)	Web Dashboard	Audio (MP3) or Video (WMV)
LAND LEASING AND PURCHASE DECISION TOOLS					
KSU-Lease	Dhuyvetter and Kastens	Download	Download		
KSU-Landbuy	Dhuyvetter and Kastens	Download	PDF		WMV MP3
KSU-Lease: Flex rent dashboard	Dhuyvetter and Kastens			View	
FlexRent	Dhuyvetter and Kastens	Download	Download		
Determining Pasture Rents in the Kansas Flint Hills (*KSU-Graze.xls*)	Dhuyvetter, Dumler, and Tonsor	Download	Download		
Title	**Author**	**Excel**	**Corresponding Paper (PDF)**	**Web Dashboard**	**Audio (MP3) or Video (WMV)**
LIVESTOCK DECISION TOOLS					
BEEF					
KSU-Bull vs AI Breeding Costs	Dhuyvetter and Vogel	Download			
KSU-SilageValue	Dhuyvetter	Download			
KSU-Cow Wintering Costs	Dhuyvetter	Download	Download		
KSU-Beef Replacements	Dhuyvetter and Tonsor	Download			MP4 WMV
SUPPCOST	Dhuyvetter, Blasi, and Smith	Download			
KSU-BeefCowLease	Dhuyvetter and Doye	Download	Download / Form		
K-State Feeder Cattle Price Analyzer	Schulz and Dhuyvetter	Download	Download		

Other Issues We Could Discuss…

- **Technology Feasibility & Acceptance Distinction**
  - **CFI 9/4/13 Tweet: "Science tells us if we can do something. Society tells us if we should do it."**
- **Economic Impact of Uncertainty**
- **Beef Market Share**
  - **Pork Expansion & PEDv**
  - **Poultry Expansion**
- **Alignment of Export Opportunities & Knowledge**

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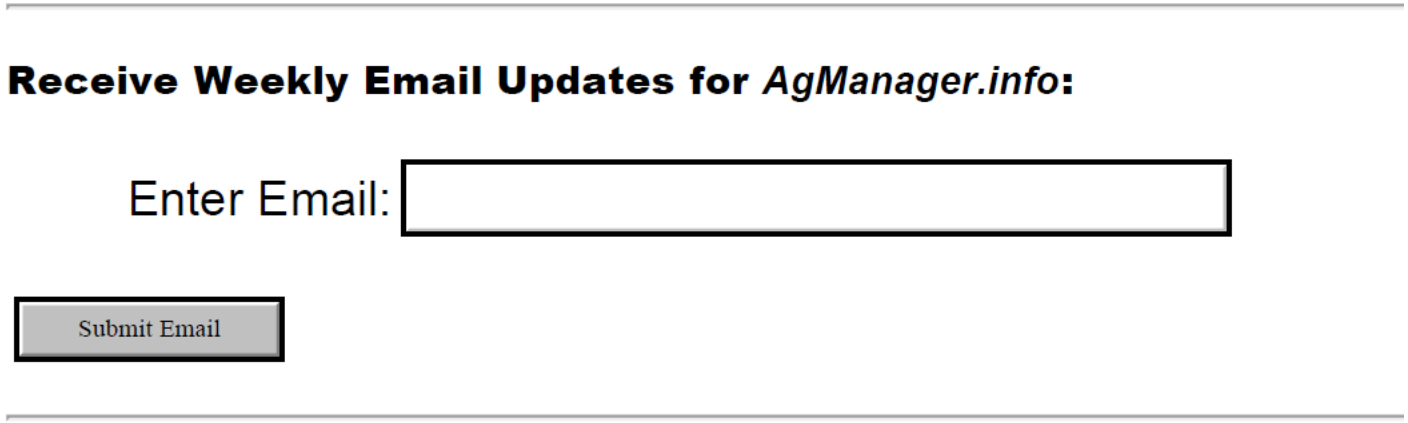

http://www.AgManager.info/Evaluation/Email.htm

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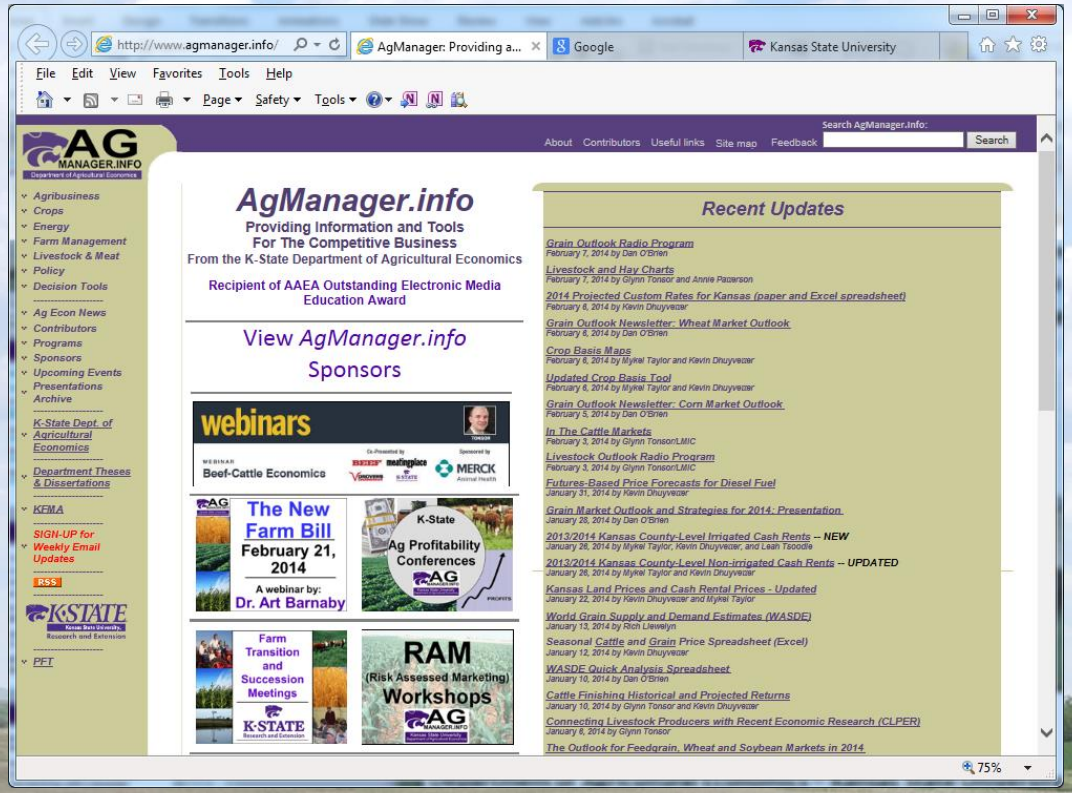

For more information and decision tools related to farm management, marketing, and risk management go to www.AgManager.info

Questions?

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Twitter: @TonsorGlynn

Department of Agricultural Economics, Kansas State University

Resources

- www.AgManager.info (papers, charts, decision tools, presentations, etc.)
- www.BeefBasis.com (basis forecasts, stocker index, value of gain, hedge analysis)
- USDA Long-Term Agricultural Projection Tables (Feb 2013)
  www.ers.usda.gov/data-products/agricultural-baseline-database/standard-reports.aspx#.UvZBtn-9KSM
- Characteristics and Productions Costs of US Cow-Calf Operations (Nov 2001)
  www.ers.usda.gov/publications/sb-statistical-bulletin/sb974-3.aspx#.UvZCbH-9KSM
- Costs of Production Forecasts (Oct 2013 – to be updated May 2014)
  www.ers.usda.gov/data-products/commodity-costs-and-returns.aspx#.UvZCPH-9KSM
- Univ of MO FAPRI Baseline Update for US Agricultural Markets (Aug 2013)
  www.fapri.missouri.edu/outreach/publications/2013/FAPRI_MU_Report_04_13.pdf

webinars

WEBINAR

Beef-Cattle Economics

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Beef-Cattle Economics webinar series

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- **May 6**
- **August 5**
- **November 11**

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