Beef-Cattle Market Outlook

Agent Update Meetings:
November 13, 2013 – Agricultural Research Center Hays
November 14, 2013 – Shawnee Extension County Office

Glynn Tonsor
Dept. of Agricultural Economics
Kansas State University

AG MANAGER.INFO
Kansas State Research & Extension
www.agmanager.info

Overarching Economic Outlook

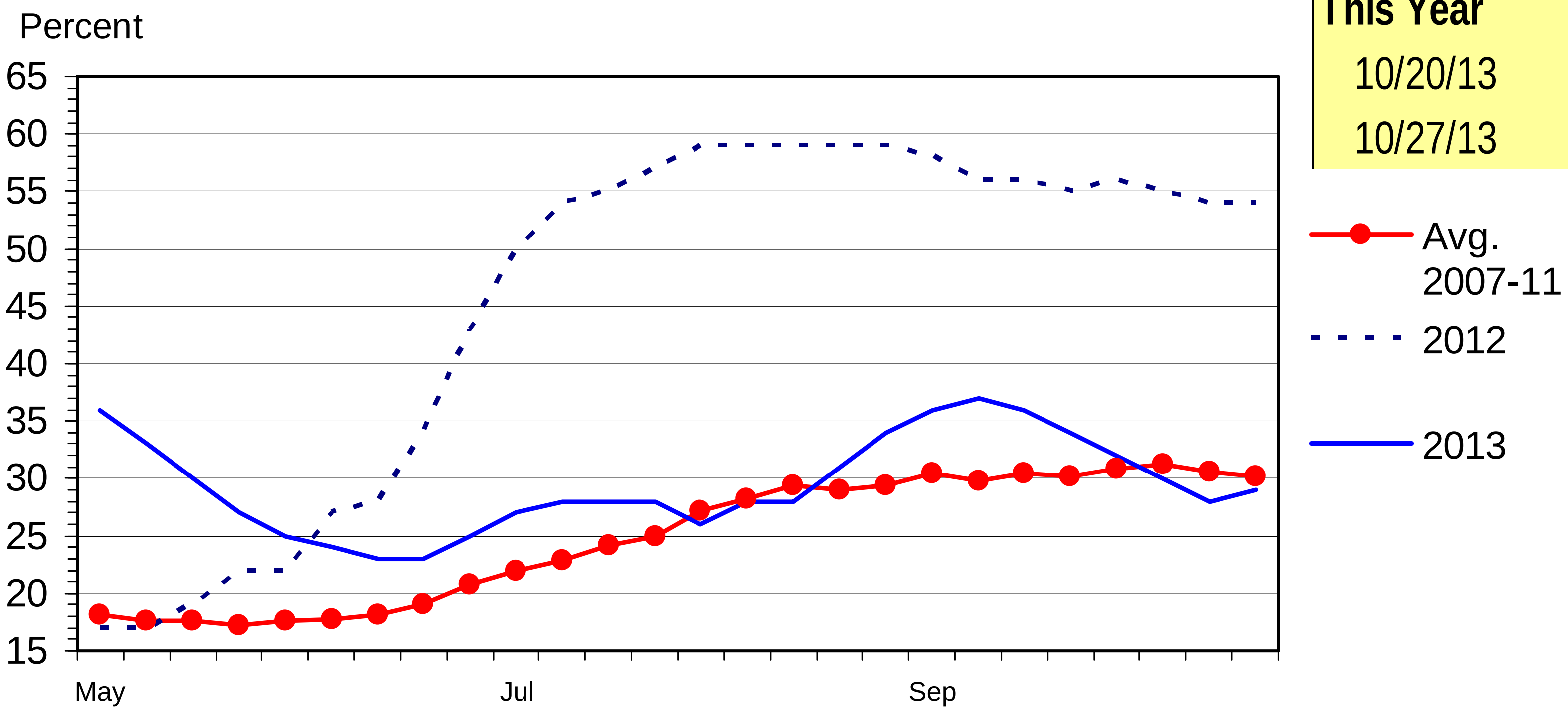
- Supplies
  - “Certain” Cattle Supplies (hd) – pulldown continues
  - Less Certain Beef Supplies (lbs) – prior trends tempered?
- Demand
  - Confusing for decades yet recently positive
  - Recent Beef Board Project; Work must be ongoing…
  - Quarterly updates delayed…
- ***Is there general sentiment of industry-wide structural change occurring?***

Economic Outlook Overview : Cow-Calf

- Compared to last year:
  - Better pastures (nationally), lower forage prices, and higher calf prices…
- Will this trigger breeding herd expansion?
  - To-date I’d say expansion has <u>NOT</u> been initiated
    - Wait for Jan. 2014 Cattle Inventory Report …

US RANGE AND PASTURE CONDITION

Percent Poor and Very Poor, Weekly



Beef Cows in states with 40% Poor to Very Poor		
Last year	Cows	% of Total
10/21/12	21284	**70.77%**
10/28/12	21284	**70.77%**
This Year		
10/20/13	2603	**8.91%**
10/27/13	4408	**15.09%**

G-NP-30
10/31/13

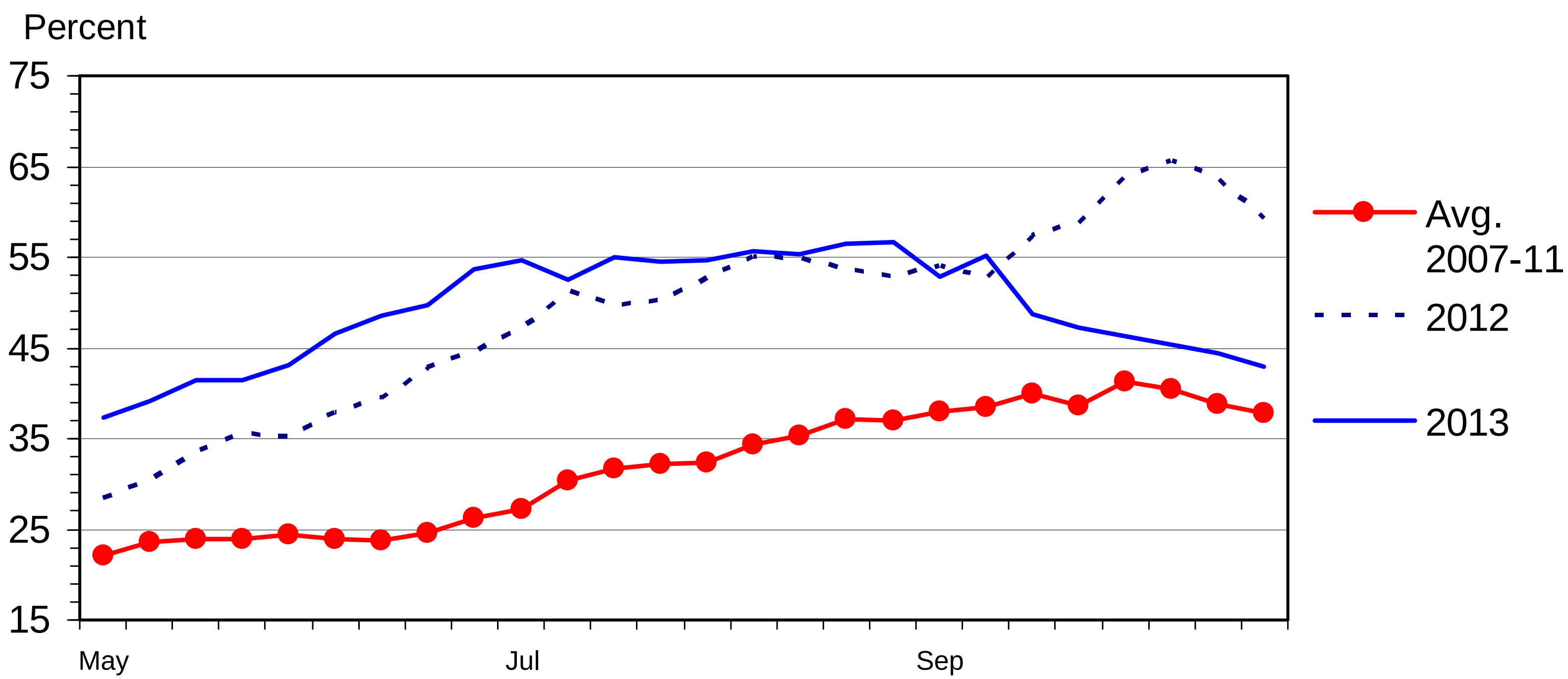
Livestock Marketing Information Center (LMIC)

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

(AZ, CA, ID, NV, NM, OR, UT, WA)
10.2% of Cows

WESTERN REGION
RANGE AND PASTURE CONDITION

Percent Poor and Very Poor, Weekly



G-NP-31
10/31/13

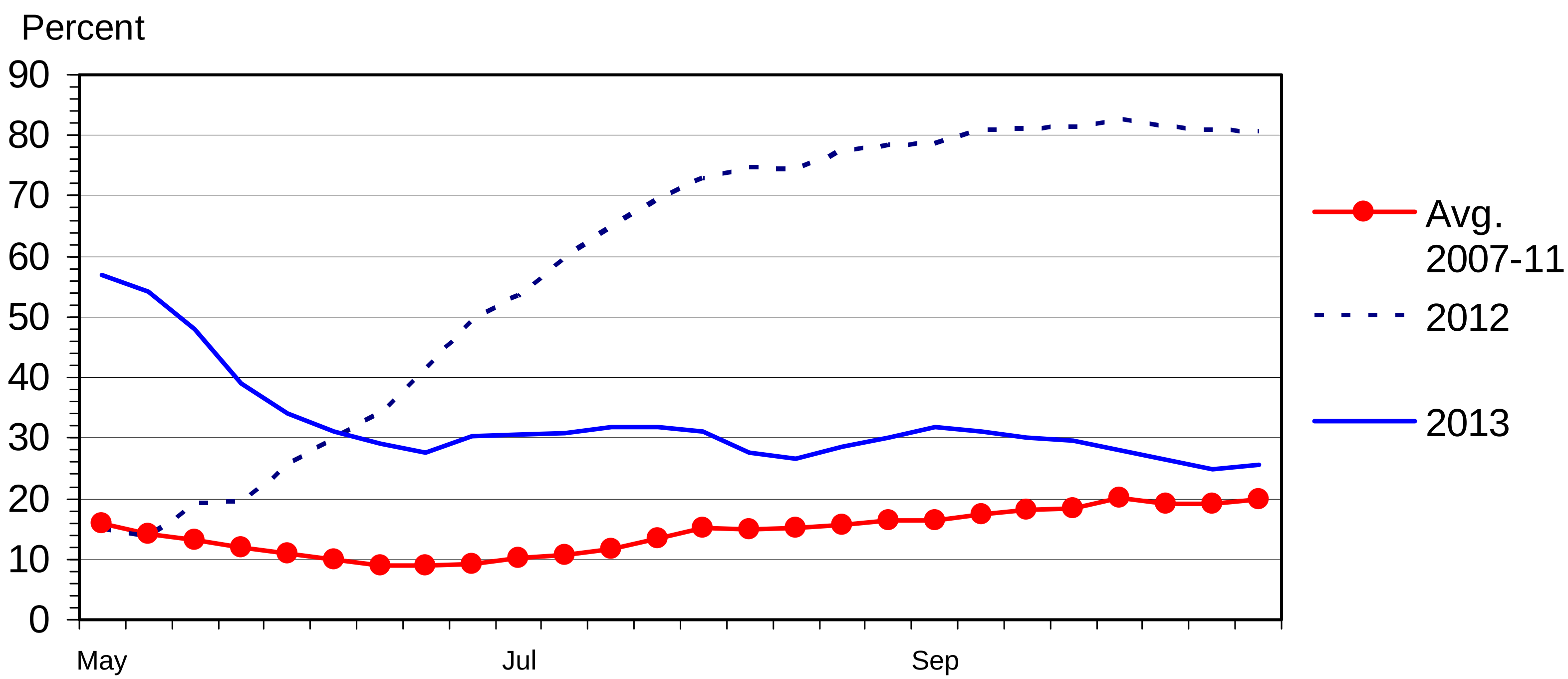
Livestock Marketing Information Center

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

(CO, KS, MT, NE, ND, SD, WY)
29.6% of Cows

GREAT PLAINS REGION
RANGE AND PASTURE CONDITION

Percent Poor and Very Poor, Weekly



G-NP-32
10/31/13

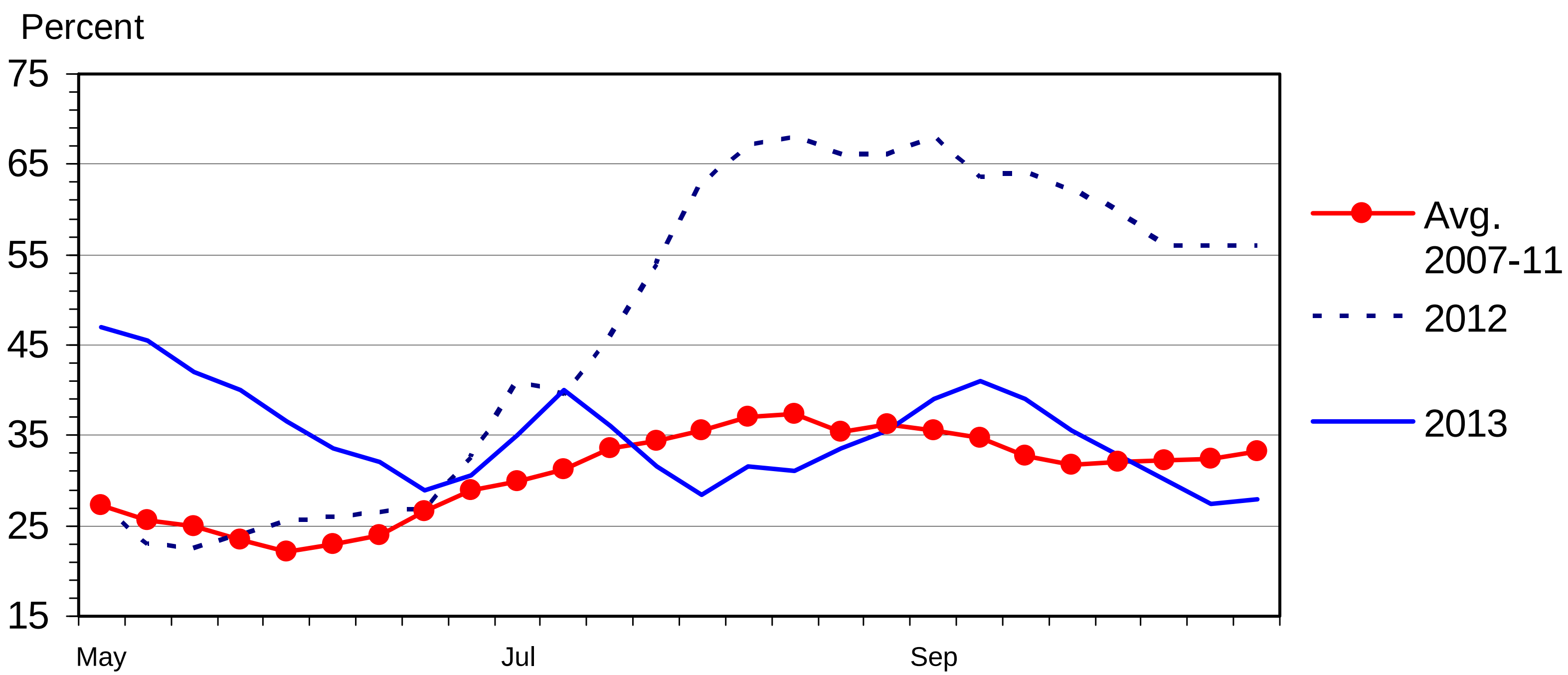
Livestock Marketing Information Center

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

(OK, TX)
19.7% of Cows

SOUTHERN PLAINS REGION
RANGE AND PASTURE CONDITION

Percent Poor and Very Poor, Weekly



G-NP-33
10/31/13

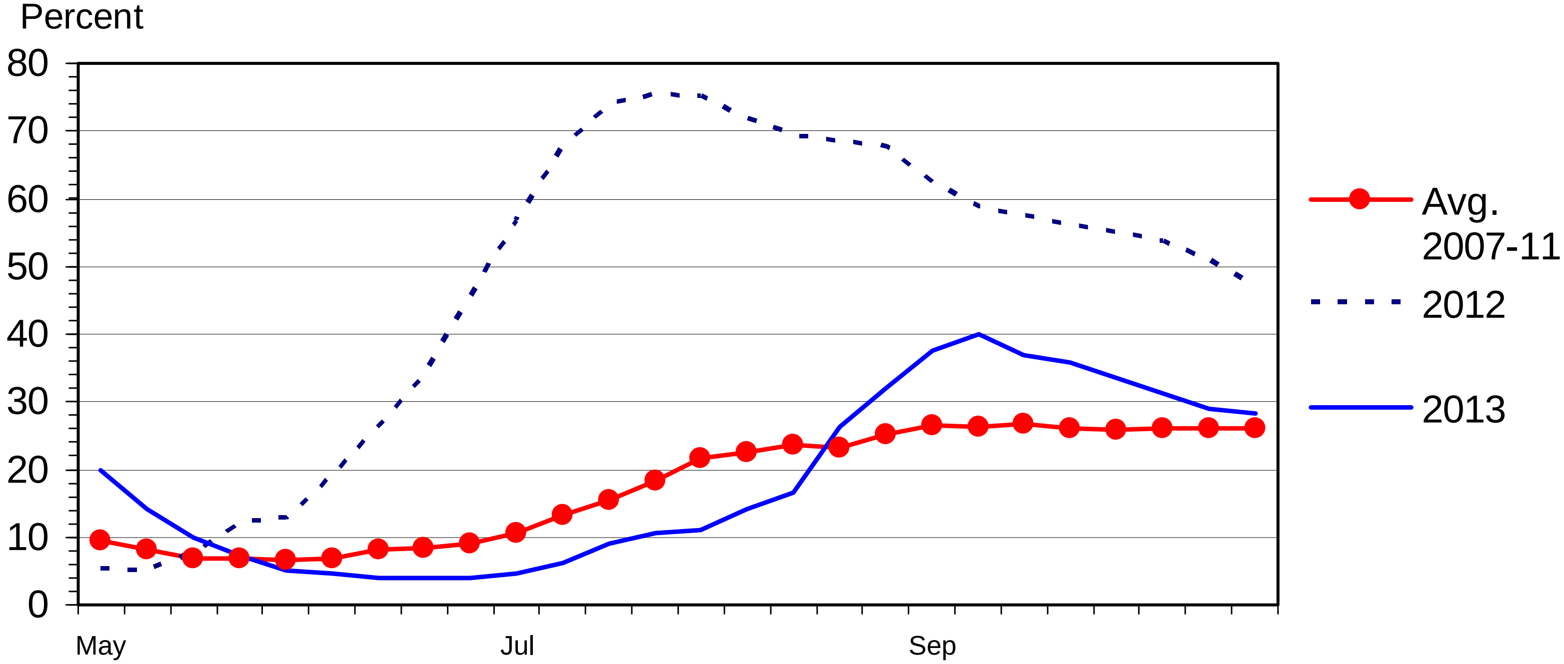
Livestock Marketing Information Center

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

CORNBELT REGION
RANGE AND PASTURE CONDITION

Percent Poor and Very Poor, Weekly

(IL, IN, IA, MI, MN, MO, OH, WI)
14.6% of Cows



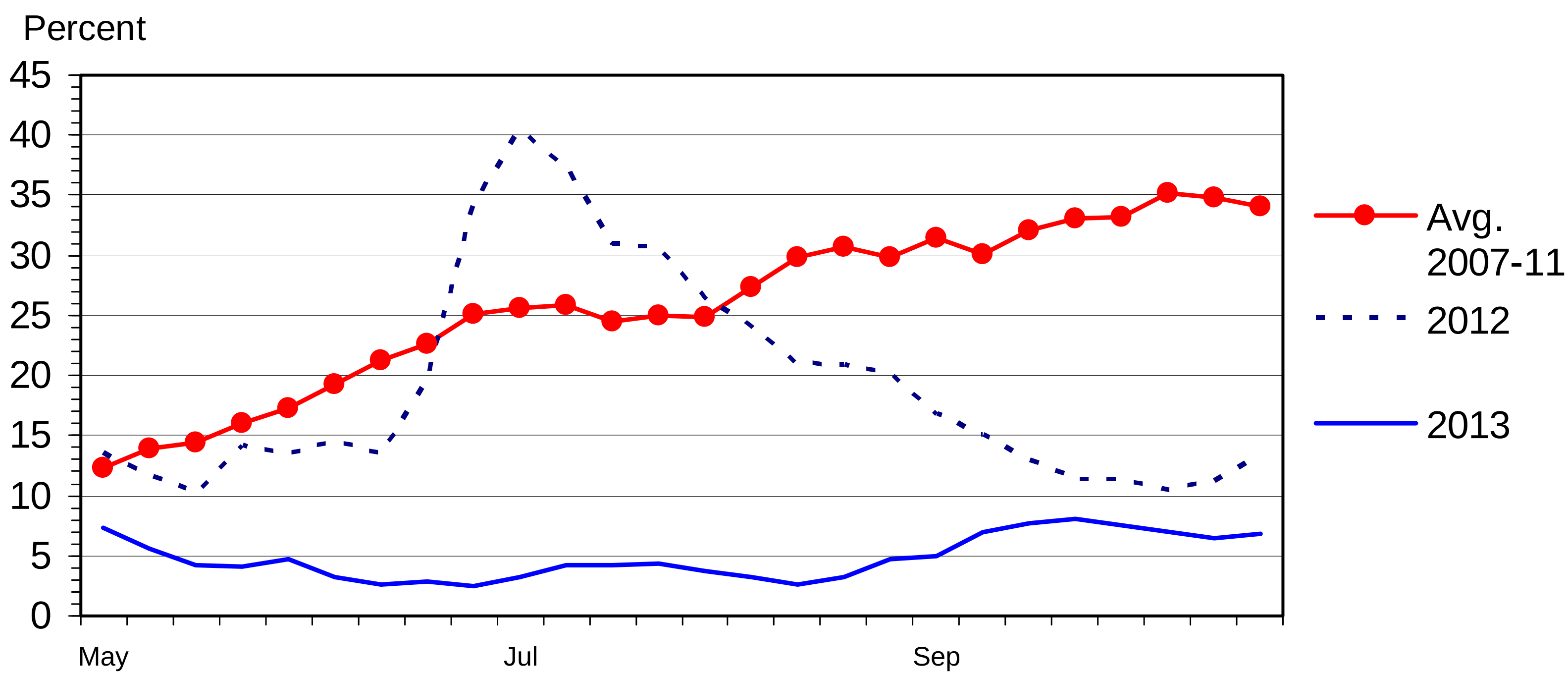
G-NP-34
10/31/13

Livestock Marketing Information Center

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

SOUTHEAST REGION
RANGE AND PASTURE CONDITION
Percent Poor and Very Poor, Weekly

(AL, AR, FL, GA, KY, LA, MS, NC, SC, TN, VA, WV)
24.7% of Cows

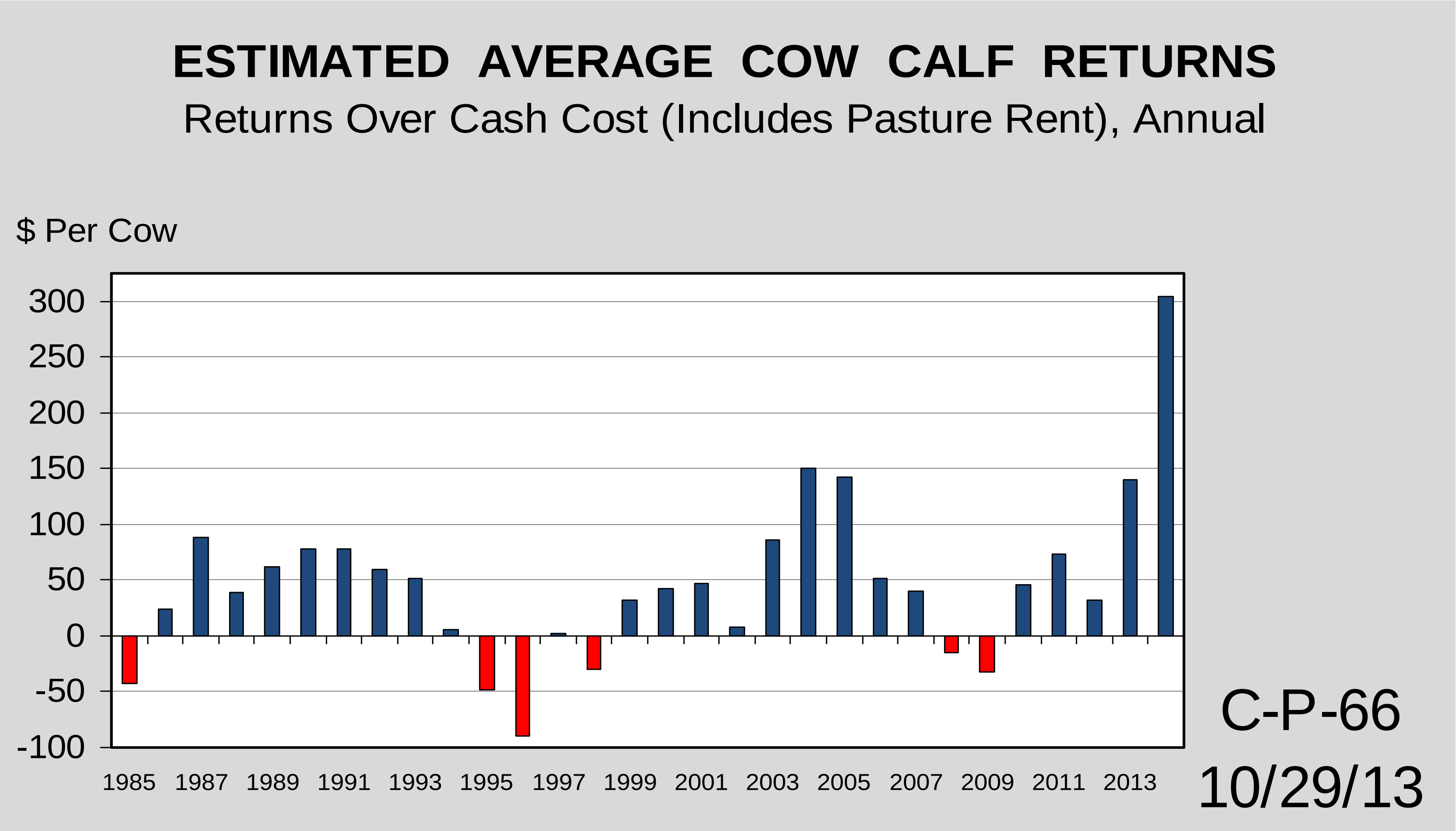


G-NP-36
10/31/13

Livestock Marketing Information Center

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

Economic Outlook Overview: Cow-Calf



Livestock Marketing Information Center Data Source: USDA-AMS & USDA-NASS, Compiled & Analysis by LMIC

Table 1. Beef Cows that Calved (1,000 hd)								
State / Region	*1994*	*2004*	*2010*	*2013*	*1994 (% of US)*	*2004 (% of US)*	*2010 (% of US)*	*2013 (% of US)*
TX	5,800	5,383	5,140	4,015	16.8%	16.5%	16.4%	13.7%
NE	1,920	1,848	1,781	1,805	5.5%	5.7%	5.7%	6.2%
MO	2,200	2,085	1,968	1,757	6.4%	6.4%	6.3%	6.0%
OK	1,853	1,920	2,073	1,754	5.4%	5.9%	6.6%	6.0%
SD	1,598	1,711	1,618	1,688	4.6%	5.3%	5.2%	5.8%
MT	1,478	1,432	1,465	1,506	4.3%	4.4%	4.7%	5.1%
KS	1,473	1,550	1,434	1,328	4.3%	4.8%	4.6%	4.5%
KY	1,155	1,128	1,070	1,028	3.3%	3.5%	3.4%	3.5%
IA	1,075	974	885	925	3.1%	3.0%	2.8%	3.2%
ND	941	937	869	922	2.7%	2.9%	2.8%	3.1%
US	34,603	32,531	31,371	29,295				
Great Plains	9,023	8,766	8,575	8,658	26.1%	26.9%	27.3%	29.6%
Southeast	8,597	8,022	7,560	7,204	24.8%	24.7%	24.1%	24.6%
Southern Plains	7,653	7,303	7,213	5,769	22.1%	22.4%	23.0%	19.7%
Cornbelt	5,100	4,705	4,487	4,271	14.7%	14.5%	14.3%	14.6%
West	3,844	3,404	3,193	3,054	11.1%	10.5%	10.2%	10.4%
Northeast	386	331	343	340	1.1%	1.0%	1.1%	1.2%

Source: USDA data, compiled by LMIC, modified for presentation by Glynn Tonsor. Regions defined as: *Great Plains* (CO, KS, MT, NE, ND, SD, WY), *Southeast* (AL, AR, FL, GA, KY, LA, MS, NC, SC, TN, VA, WV), *Southern Plains* (OK, TX), *Cornbelt* (IL, IN, IA, MI, MN, MO, OH, WI), and *West* (AK, AZ, CA, HI, ID, NV, NM, OR, UT, WA).

Originally posted in February 4, 2013 *In The Cattle Markets* article.

Table 2. Heifers for Beef Cow Replacement (1,000 hd)

State / Region	*1994*	*2004*	*2010*	*2013*	*1994 (% of US)*	*2004 (% of US)*	*2010 (% of US)*	*2013 (% of US)*
TX	980	740	760	600	15.4%	13.4%	13.9%	11.2%
NE	260	280	320	350	4.1%	5.1%	5.9%	6.5%
MO	370	280	280	270	5.8%	5.1%	5.1%	5.0%
OK	345	370	405	280	5.4%	6.7%	7.4%	5.2%
SD	280	290	285	315	4.4%	5.3%	5.2%	5.9%
MT	355	420	340	435	5.6%	7.6%	6.2%	8.1%
KS	280	230	240	230	4.4%	4.2%	4.4%	4.3%
KY	205	160	150	150	3.2%	2.9%	2.8%	2.8%
IA	160	125	130	150	2.5%	2.3%	2.4%	2.8%
ND	190	156	165	207	3.0%	2.8%	3.0%	3.9%
US	6,364	5,508	5,451	5,361				
Great Plains	1,715	1,631	1,615	1,838	26.9%	29.6%	29.6%	34.3%
Southeast	1,596	1,266	1,223	1,140	25.1%	23.0%	22.4%	21.3%
Southern Plains	1,325	1,110	1,165	880	20.8%	20.2%	21.4%	16.4%
Cornbelt	873	777	752	779	13.7%	14.1%	13.8%	14.5%
West	749	630	599	603	11.8%	11.4%	11.0%	11.3%
Northeast	107	94	97	120	1.7%	1.7%	1.8%	2.2%

Source: USDA data, compiled by LMIC, modified for presentation by Glynn Tonsor. Regions defined as: *Great Plains* (CO, KS, MT, NE, ND, SD, WY), *Southeast* (AL, AR, FL, GA, KY, LA, MS, NC, SC, TN, VA, WV), *Southern Plains* (OK, TX), *Cornbelt* (IL, IN, IA, MI, MN, MO, OH, WI), and *West* (AK, AZ, CA, HI, ID, NV, NM, OR, UT, WA).

Originally posted in February 4, 2013 *In The Cattle Markets* article.

Economic Outlook Overview : Cow-Calf – Expansion Discussion

- *Expected Profit:*
  - *2014 LMIC Forecast 2X 04' & 13'*
    - *Note same $X/hd = lower ROI than in the past…*
- *Profit Risk*
  - *Context on environment of price variability…*
    - *Feedstuff price recovery persistence?*
    - *Ongoing discussion & concern over retail beef prices…*
    - *"Sky high" replacement prices in 2014?*
- *Uncertainty*
  - *Broader political uncertainty*
    - *Economic Policy Uncertainty Indices (http://www.policyuncertainty.com/index.html)*
    - *Farm Bill, Shutdown, MCOOL, Technology Acceptance…*

Economic Outlook Overview : Cow-Calf – Expansion Discussion

- *Why Did Herd Shrink?*
  - *Demand Declines (long-term)*
  - *Drought & Feed Costs (more recent)*

- *What Can I pay for a Replacement?*

Economic Outlook Overview : Cow-Calf – Expansion Discussion

- *KSU-Beef Replacement* spreadsheet
  - http://www.agmanager.info/livestock/budgets/production/default.asp

Table 1. Net Present Value of Beef Replacements, Sensitivity Analysis Summary*

Year	Number of Calves	Base Case	10% Lower Cow Costs/yr	10% Lower Discount Rate	10% Higher Calf Prices
2014	1	$1,107	$1,177	$1,107	$1,288
2015	2	$1,233	$1,359	$1,239	$1,484
2016	3	$1,323	$1,493	$1,335	$1,628
2017	4	$1,357	$1,562	$1,373	$1,701
2018	5	$1,379	$1,611	$1,399	$1,754
2019	6	$1,407	$1,662	$1,430	$1,808
2020	7	$1,425	$1,697	$1,451	$1,846
2021	8	$1,443	$1,729	$1,470	$1,879
2022	9	$1,458	$1,755	$1,487	$1,907
2023	10	$1,466	$1,772	$1,497	$1,925
Key Inputs Varied Across Scenarios**:					
Annual cow costs, $/year		$700	$630	$700	$700
Discount rate, interest rate		7.50%	7.50%	6.75%	7.50%
Calf Price, $/cwt	2014	$168	$168	$168	$185

Economic Outlook Overview : Cow-Calf – Expansion Discussion

- *KSU-Beef Replacement* spreadsheet
  - **Two fact sheets and video tutorial also available online:**
    - http://www.agmanager.info/livestock/budgets/production/default.asp

Economic Outlook Overview : Cow-Calf – Expansion Discussion

- *Variation across producers is substantial*
  - *$300 dif in costs of top & bottom 1/3 KFMA producers*
    - Producer w/ $850/cow costs: $811/heifer (10 yrs) NPV
    - Producer w/ $700/cow costs: $1,466/heifer (10 yrs) NPV
- *Regionally:*
  - Southern Plains will rebuild some
  - SE & Heartland will continue trend of relative decline
  - Great/N. Plains & West will resume relative growth
    - Nationally more intense/alternative cow management likely necessary given land constraints…

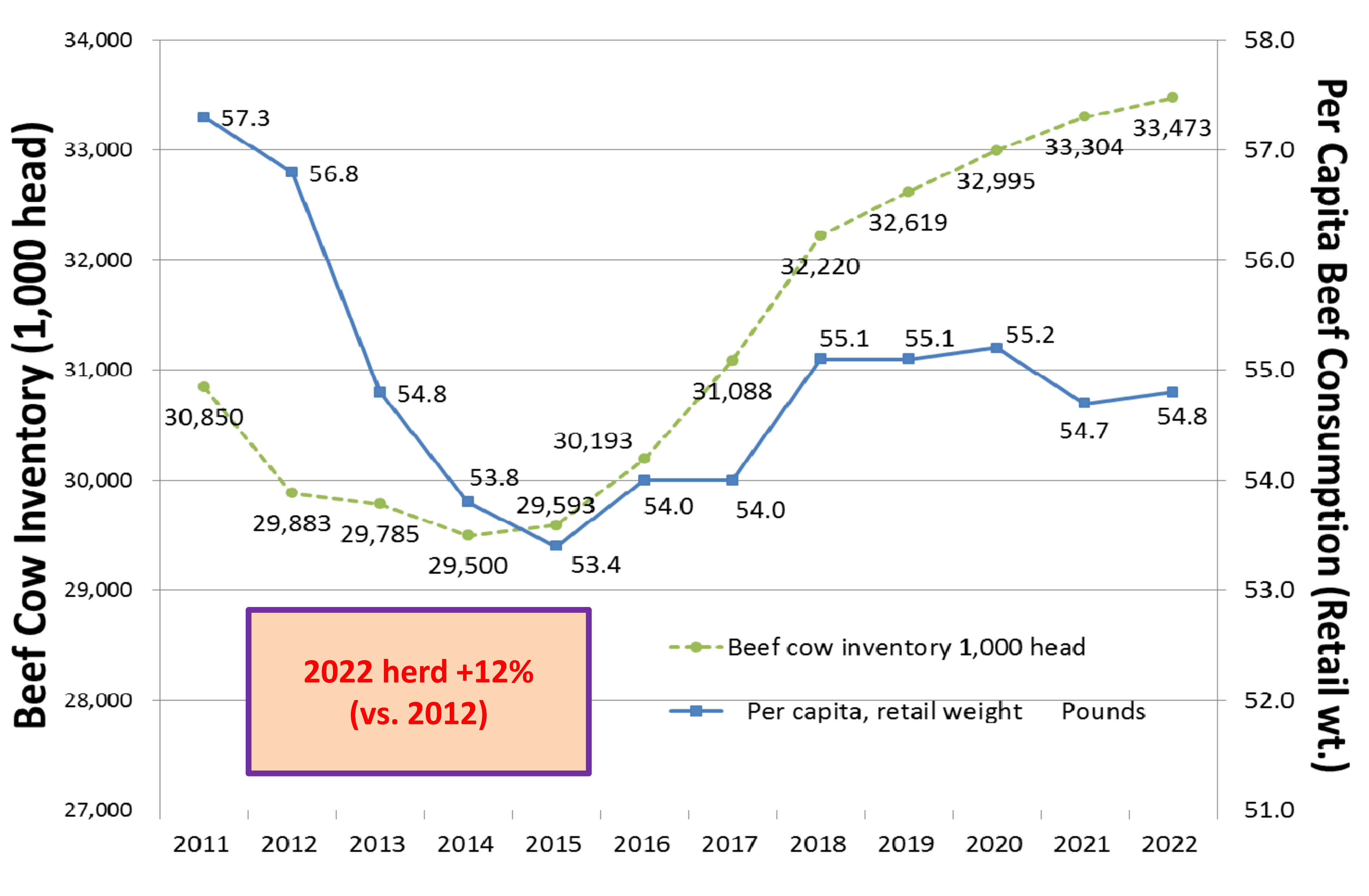
Economic Outlook Overview : Cow-Calf – Expansion Discussion

- *Role of Risk & Uncertainty*
  - Producer charging 7.5% discount rate:
    - $1,466/heifer (10 yrs) NPV
  - Producer charging 15% discount rate:
    - $1,222/heifer (10 yrs) NPV

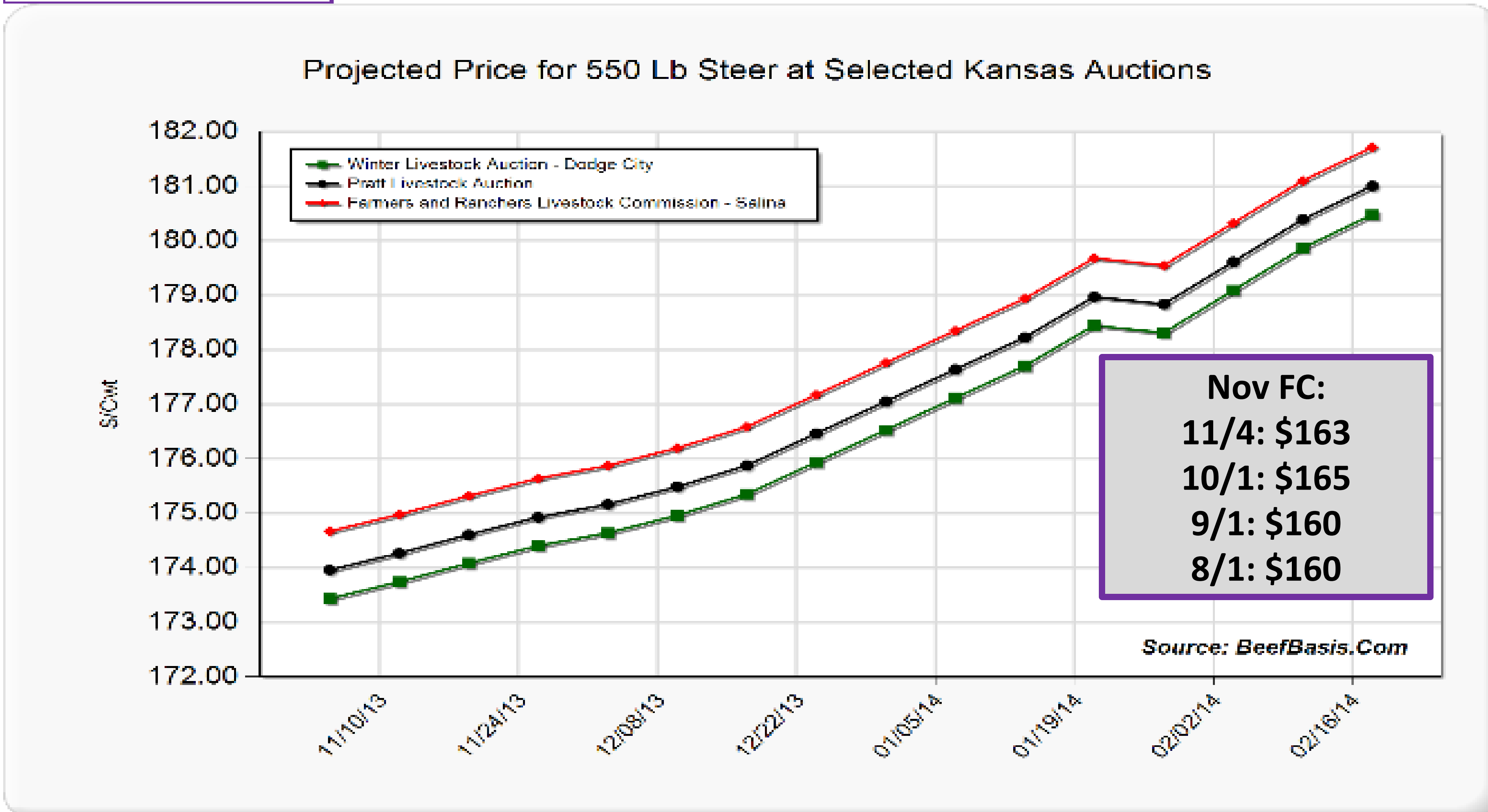
Longer-term projections (*as of Feb. 2013*)

http://www.usda.gov/oce/commodity/projections/index.htm

2021 Projection 1.1 million less than Feb. 12'



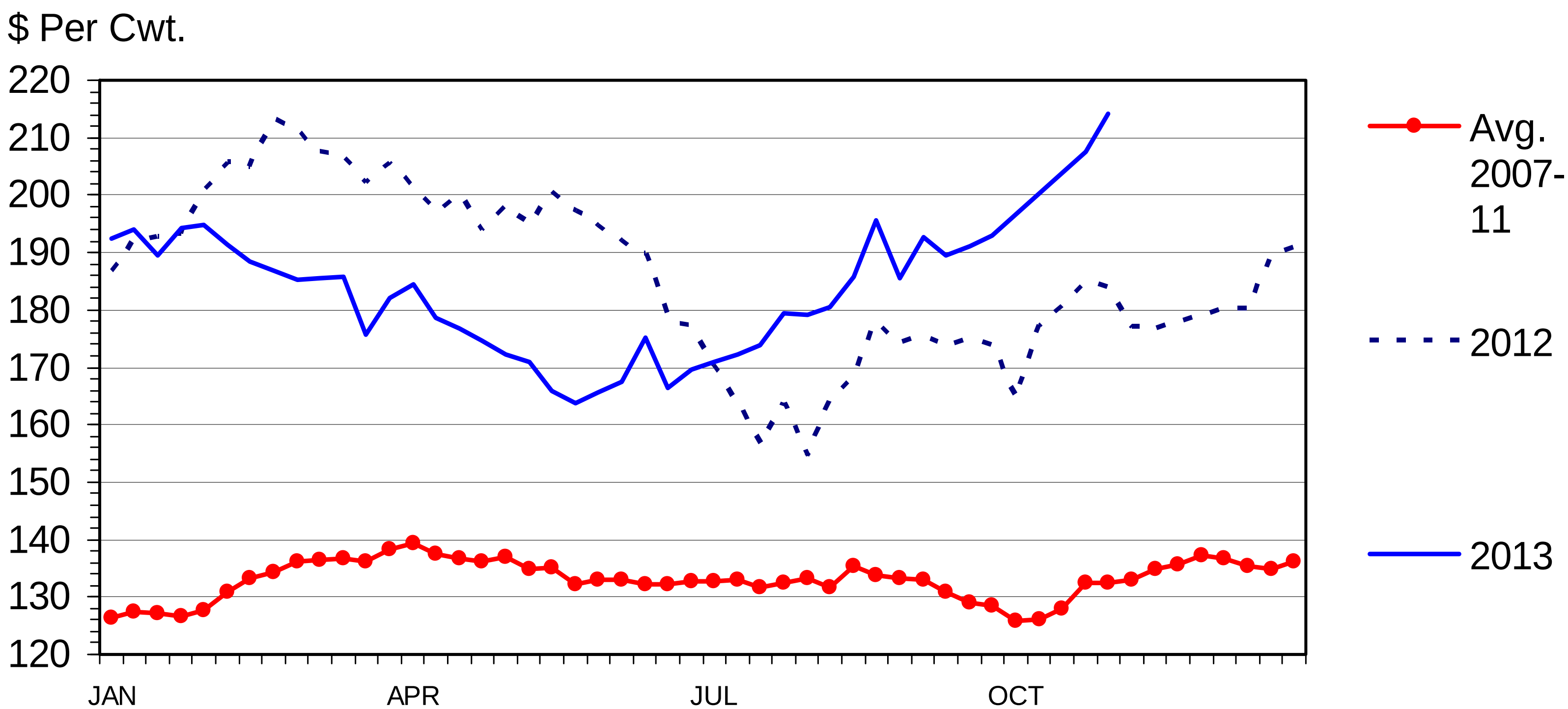
As of: 11/4/13’



http://www.agmanager.info/livestock/marketing/graphs/cattle/prices/default.asp

MED. & LRG. #1 STEER CALF PRICES

400-500 Pounds, Southern Plains, Weekly



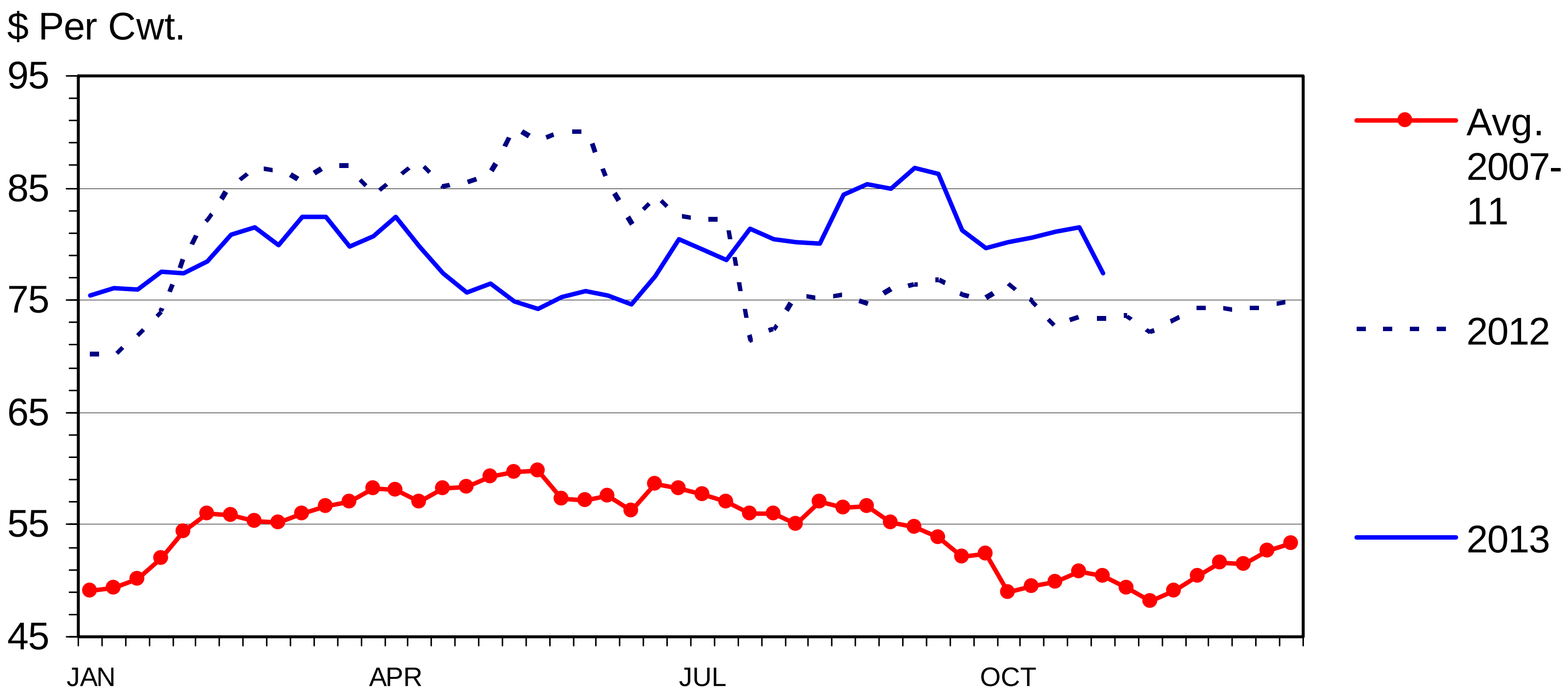
C-P-49A
11/04/13

Livestock Marketing Information Center

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

SLAUGHTER COW PRICES

Southern Plains, 85-90% Lean, Weekly



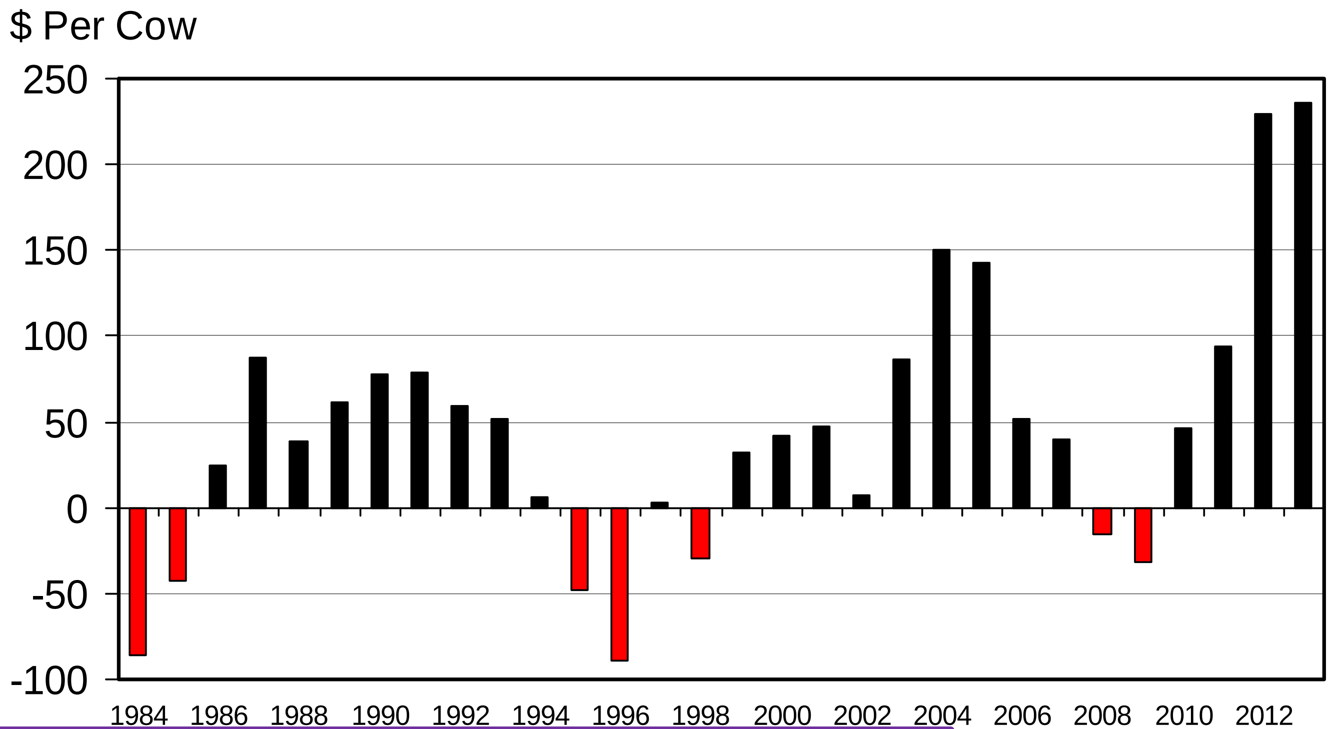
C-P-35
11/04/13

Livestock Marketing Information Center

Data Source: USDA-AMS

ESTIMATED AVERAGE COW CALF RETURNS

Returns Over Cash Cost (Includes Pasture Rent), Annual



TREND: PROMISING YET UNFULLFILLED TO-DATE HERD EXPANSION

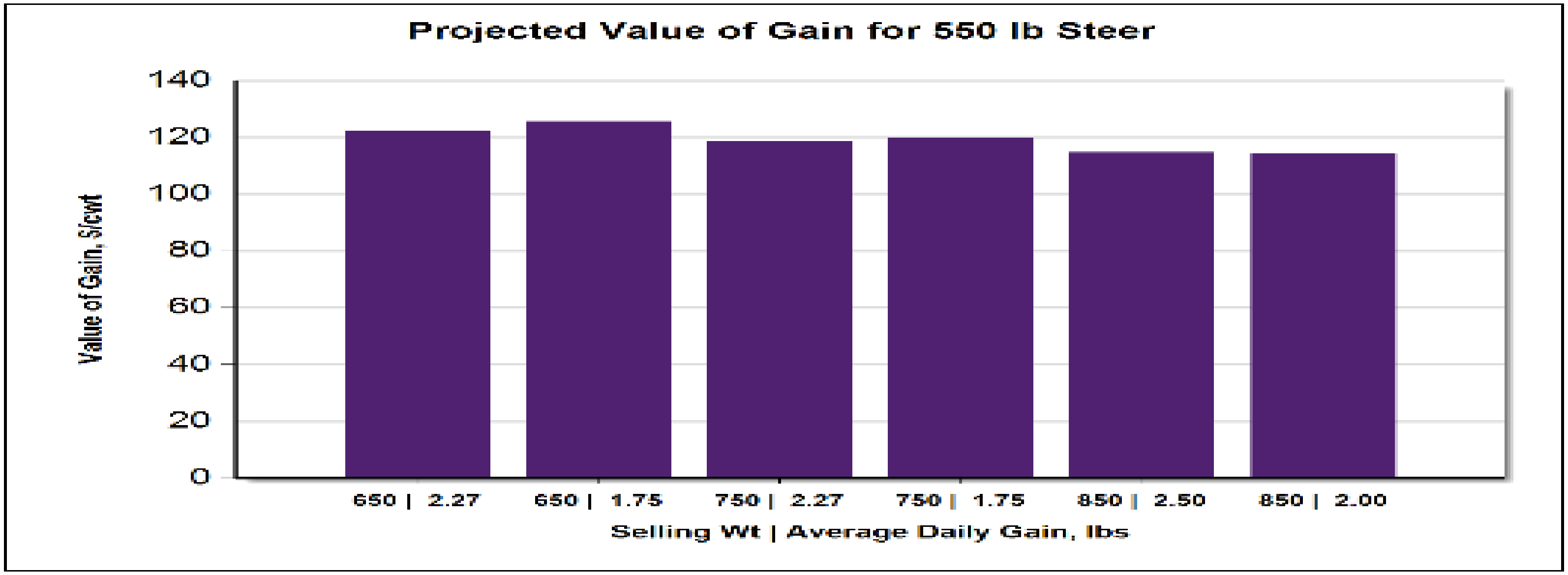
C-P-66
03/21/12

Economic Outlook Overview : Stockers

- Attractive Values of Gain (VOG) vs. COG
  - For those in many stocker/backgrounding areas …

- Salina, KS 11/4/13 situation:
  - Buy 550 lb steer on 11/13/13 ($178.34)
  - Sell 750 lb steer on 02/12/14 ($162.43) {2.17 ADG}
    - VOG: $118.69/cwt

http://www.beefbasis.com/ForecastingTools/ValueofGain/tabid/1132/Default.aspx



Projected Value of Gain

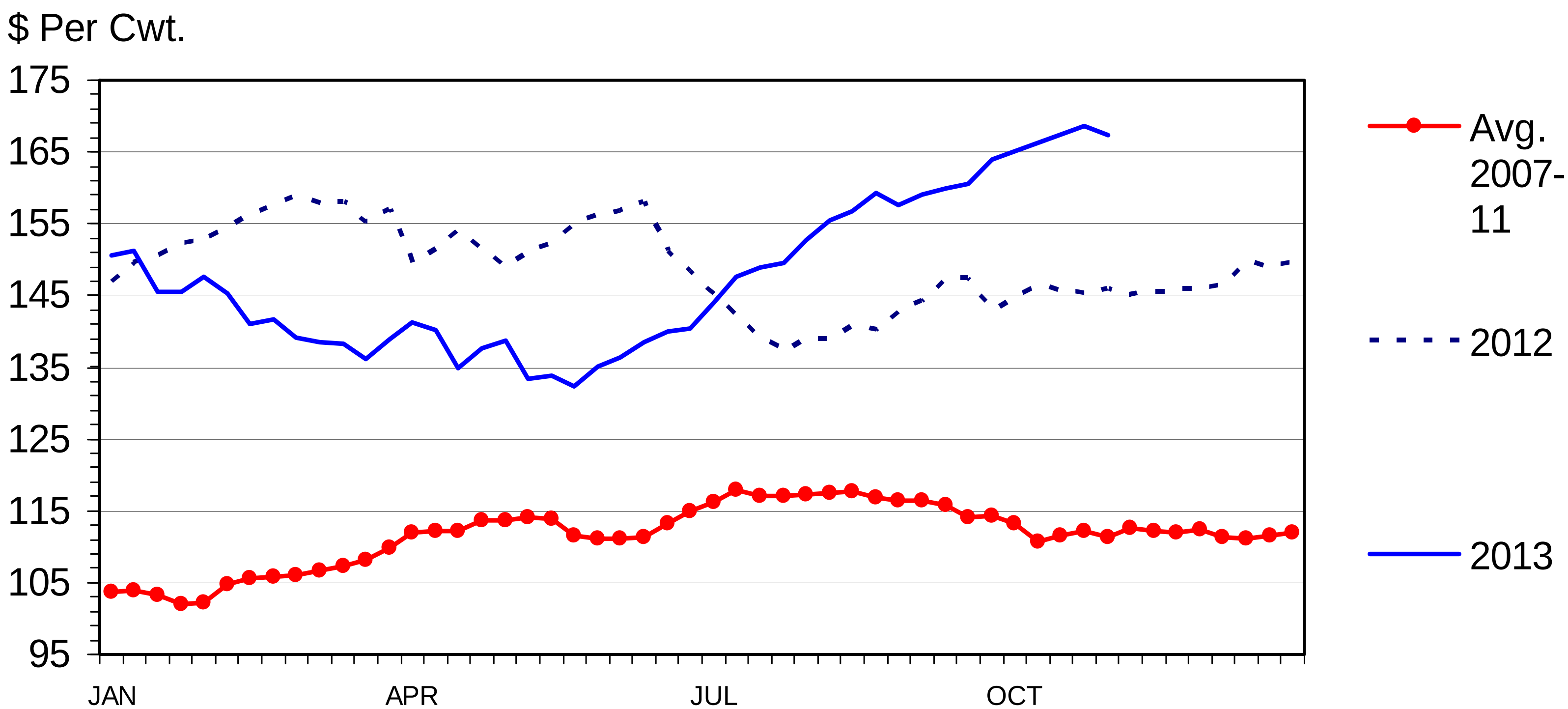
Begining Weight, lbs	Ending Weight, lbs	Date	Weight Gain, lbs/hd	ADG, lbs	Value of Gain, $/cwt
550	650	12/19/2013	100	2.27	$122.34
550	650	01/01/2014	100	1.75	$125.59
550	750	02/01/2014	200	2.27	$118.69
550	750	02/27/2014	200	1.75	$120.08
550	850	03/05/2014	300	2.50	$114.68
550	850	04/04/2014	300	2.00	$114.57

Note: Projections dervied for the Salina, KS market using BeefBasis.com
Related information is available at: BeefBasis.com 11/5/2013

http://www.agmanager.info/livestock/marketing/graphs/cattle/prices/VOG.asp

MED. & LRG. #1 FEEDER STEER PRICES

700-800 Pounds, Southern Plains, Weekly



C-P-49
11/04/13

Livestock Marketing Information Center

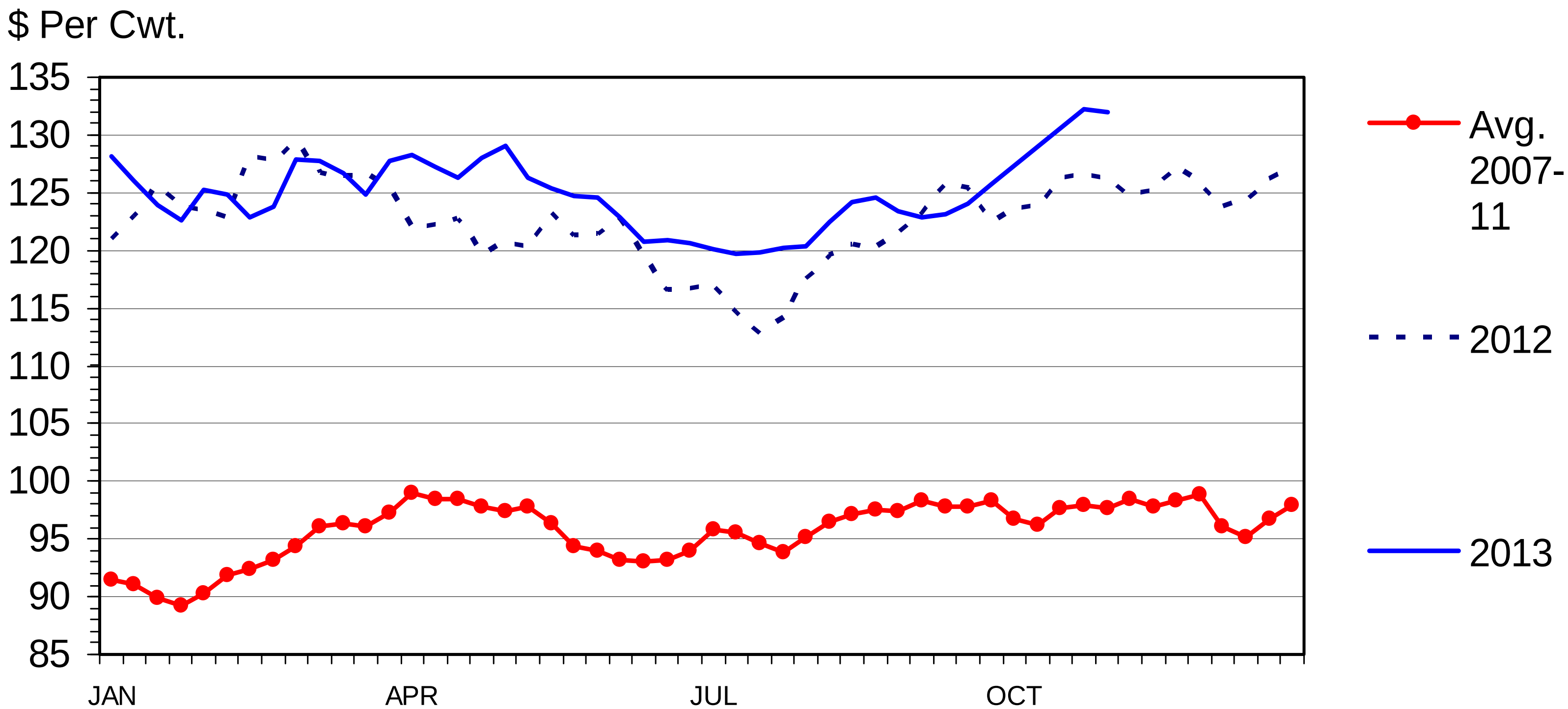
Data Source: USDA-AMS, Compiled & Analysis by LMIC

Economic Outlook Overview : Feedlots

- Sector under most current pressure
- Excess capacity concerns persist:
  - Heifer Retention (?), MCOOL, Mexico, etc.
- Last couple years’ closeouts been at historically high losses…
  - Recent improvements

SLAUGHTER STEER PRICES

5 Market Weighted Average, Weekly



Livestock Marketing Information Center

Data Source: USDA-AMS

Historical and Projected Kansas Feedlot Net Returns
(as of 10/23/13')

(http://www.agmanager.info/livestock/marketing/outlook/newsletters/FinishingRet

Dec LC:
11/4: $132
10/1: $132
9/1: $130
8/1: $128

August 13': -$89/steer

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
Sep-13	-62.74	115.73	123.90	133.34	103.37	128.41	126.24
Oct-13	16.30	115.09	130.36	134.84	118.29	129.20	136.66
Nov-13	-2.09	109.05	130.72	142.00	108.67	130.86	141.75
Dec-13	-12.51	103.16	131.38	149.17	100.98	132.27	147.70
Jan-14	-13.04	98.74	131.17	151.81	96.43	132.10	150.25
Feb-14	-5.38	96.56	132.62	154.44	95.57	133.02	153.78

Representative Barometer for Trends in Profitability

Zilmax® Use

- Beef production <u>direction</u> ‘certain’
  - +/- 29 lbs on steer carcass; 23 lbs for heifers
    - *Zilmax®* adds 6-8 lbs more than *Optaflexx®*

- <u>*Magnitude of impact is very uncertain*</u>
  - Ultimately, how does % of fed cattle on *Zilmax®*, *Optaflexx®*, Neither change?
    - <u>***How long will these changes last???***</u>

Broader Perspective on *Zilmax*®
Discussion

- The Center For Food Integrity (@foodintegrity) tweeted on Wed, Sep 04, 2013:

"Science tells us if we <u>can</u> do something.

Society tells us if we <u>should</u> do it."

-- See recent *In the Cattle Markets article:*
http://www.lmic.info/memberspublic/InTheCattleMarket.html

Quarterly Forecasts (LMIC: 11/1/13)

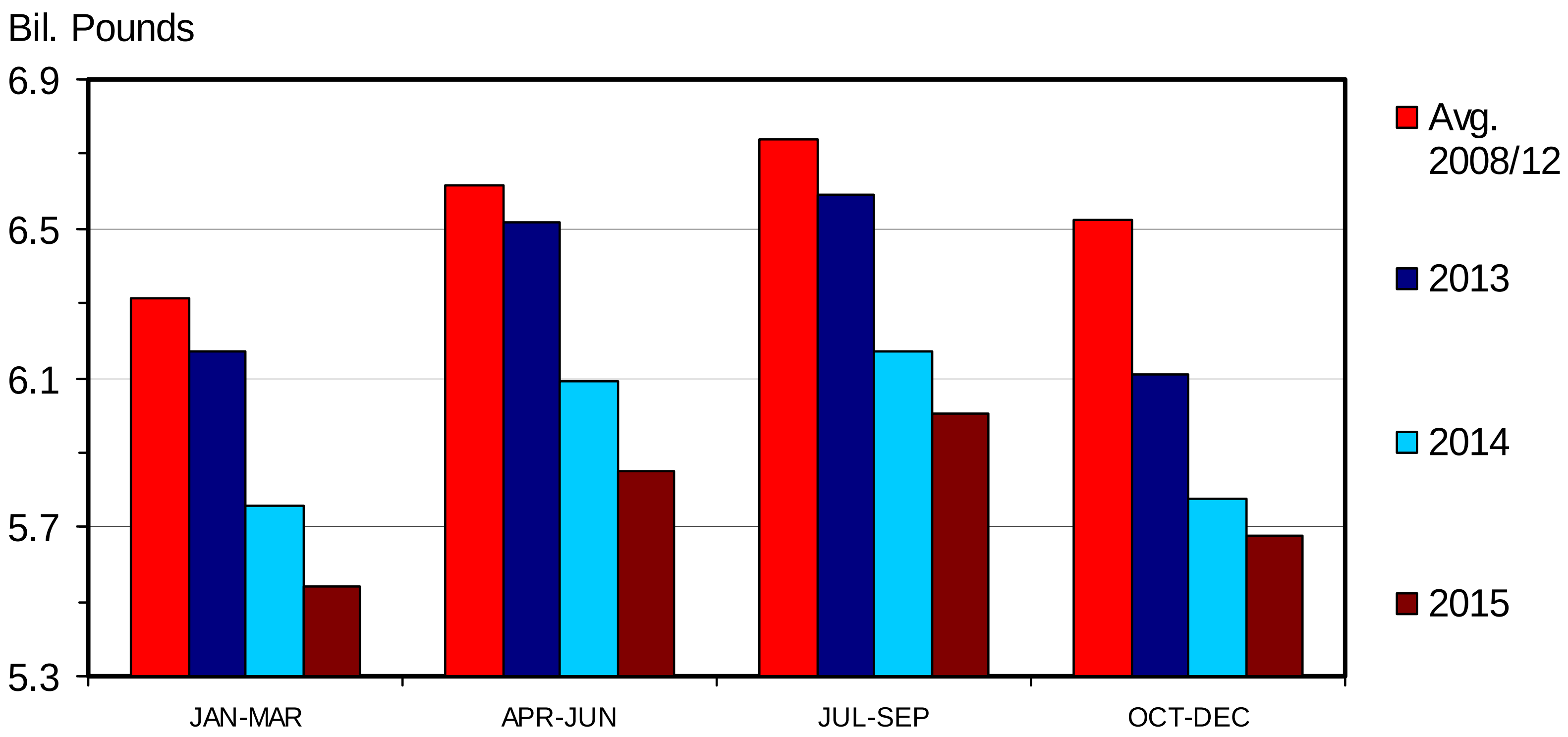
Year Quarter	Comm'l Slaughter	% Chg. from Year Ago	Average Dressed Weight	% Chg. from Year Ago	Comm'l Beef Production	% Chg. from Year Ago
2012						
I	8,026	-3.5	782.7	1.5	6,282	-2.0
II	8,309	-3.8	779.0	2.6	6,473	-1.3
III	8,333	-4.6	790.3	2.5	6,586	-2.2
IV	8,283	-1.3	793.5	2.6	6,572	1.3
Year	**32,951**	**-3.3**	**786.4**	**2.3**	**25,913**	**-1.1**
2013						
I	7,779	-3.1	793.4	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	6,608	0.3
IV	7,813	-5.7	795.7	0.3	6,217	-5.4
Year	**32,238**	**-2.2**	**791.4**	**0.6**	**25,514**	**-1.5**
2014						
I	7,202	-7.4	797.6	0.5	5,744	-6.9
II	7,708	-7.4	787.0	0.5	6,066	-6.9
III	7,697	-7.5	798.9	0.6	6,149	-6.9
IV	7,327	-6.2	801.7	0.7	5,874	-5.5
Year	**29,934**	**-7.1**	**796.2**	**0.6**	**23,833**	**-6.6**
2015						
I	6,887	-4.4	802.1	0.6	5,524	-3.8
II	7,344	-4.7	793.4	0.8	5,827	-3.9
III	7,422	-3.6	806.3	0.9	5,984	-2.7
IV	7,154	-2.4	806.0	0.5	5,766	-1.8
Year	**28,807**	**-3.8**	**801.9**	**0.7**	**23,101**	**-3.1**

Quarterly Forecasts (LMIC: 11/1/13)

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#
2012				
I	125.30	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	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	131-132	4.7	164-167	179-184
Year	125-127	2.6	149-151	170-172
2014				
I	131-134	5.6	164-168	186-192
II	132-137	7.6	165-172	192-200
III	129-135	7.9	166-173	188-196
IV	132-139	3.0	164-172	183-192
Year	131-136	6.0	165-171	188-194
2015				
I	134-142	4.2	166-175	187-198
II	135-144	3.7	167-177	193-205
III	131-141	3.0	169-180	191-204
IV	134-145	3.0	166-178	185-199
Year	135-141	3.4	166-174	187-197

COMMERCIAL BEEF PRODUCTION

Quarterly



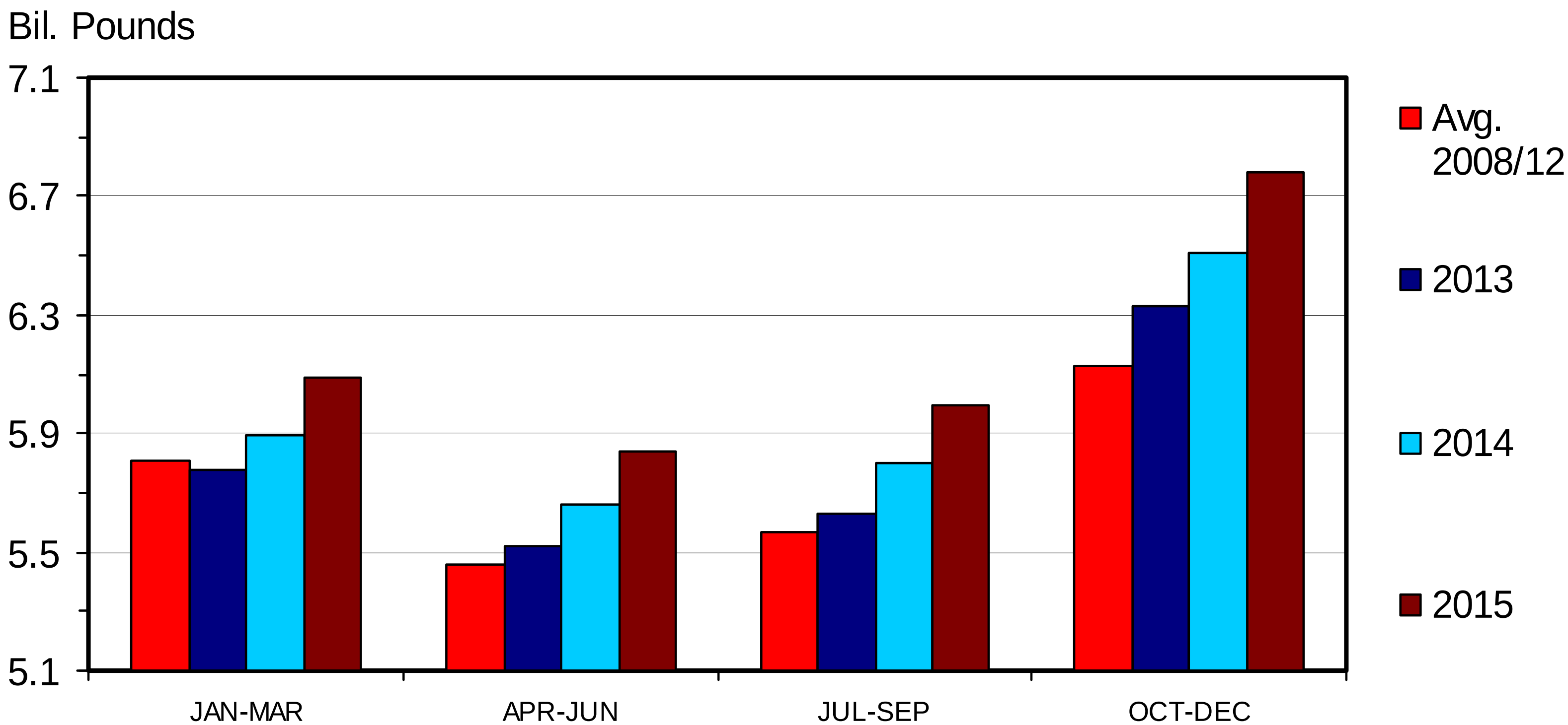
M-S-01
10/02/13

Livestock Marketing Information Center

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

COMMERCIAL PORK PRODUCTION

Quarterly



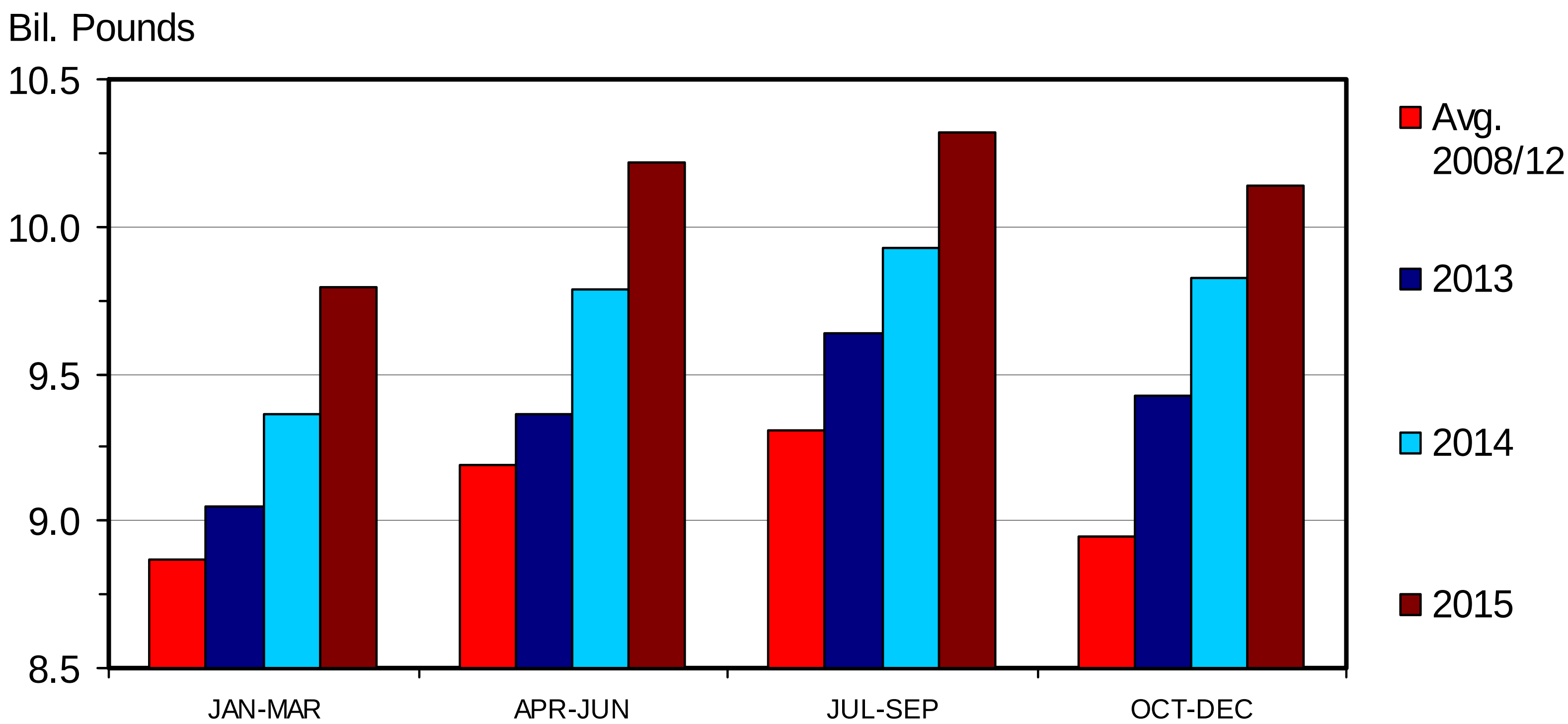
M-S-06
10/02/13

Livestock Marketing Information Center

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

RTC BROILER PRODUCTION

Quarterly



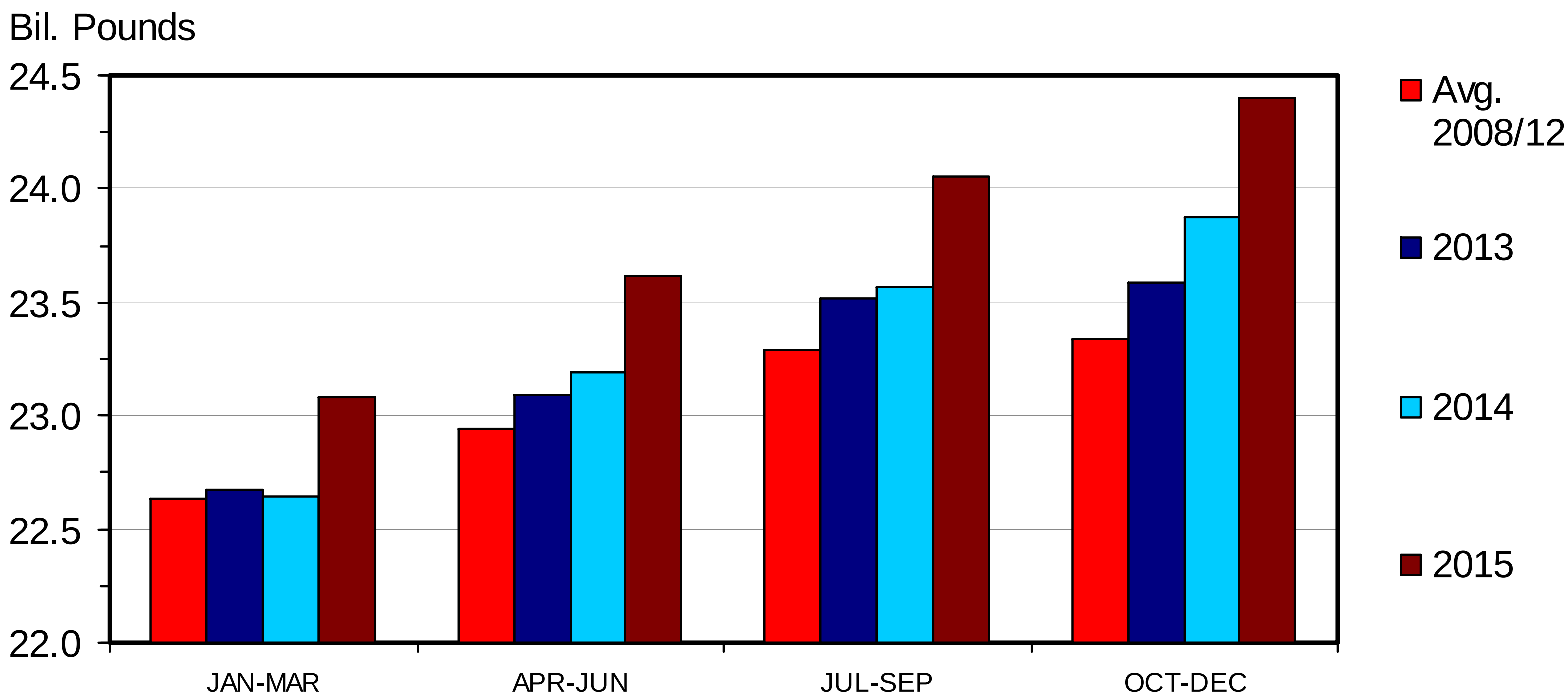
M-S-30
10/02/13

Livestock Marketing Information Center

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

TOTAL RED MEAT & POULTRY PRODUCTION

Quarterly



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10/02/13

Livestock Marketing Information Center

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2013 Beef Demand Determinant Study

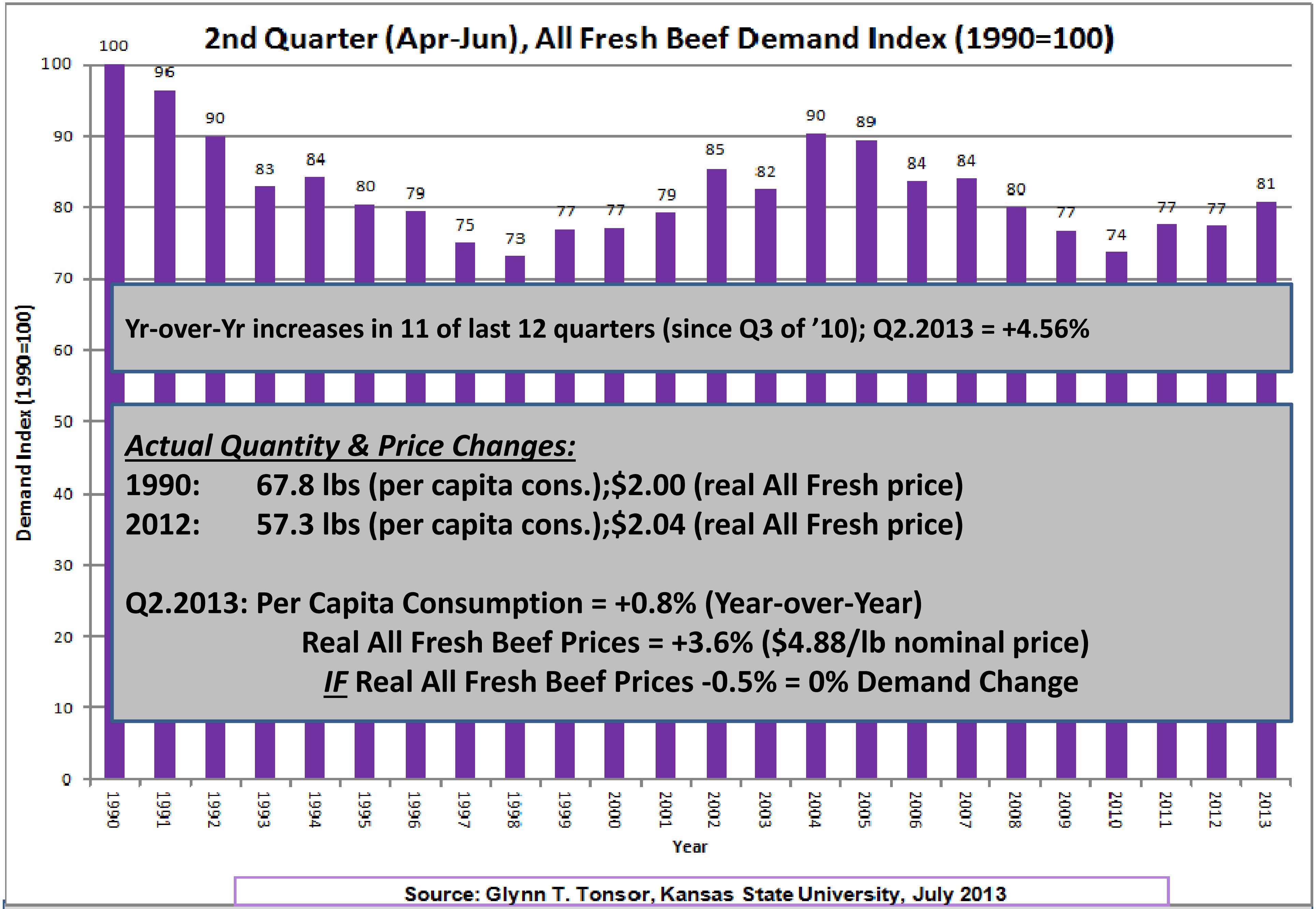
In Fiscal Year 2013, the Beef Checkoff Program commissioned a Beef Demand Determinant Study to identify the beef demand drivers on which the checkoff programs should focus to have the most compelling effects on beef demand moving forward.

Below you will find links to a one-page abstract, a summary report, and the full results of the study, authored by Dr. Ted Schroeder, professor of livestock marketing, and Dr. Glynn Tonsor, associate proessor of livestock marketing, both at Kansas State University, in addition to Dr. James Mintert, assistant director of Extension for Agriculture and Natural Resources at Purdue University:

- **One-page Summary Abstract: "Beef Demand: Determinants and Future Drivers"**
- **Beef Demand Summary Report 2013**
- **Chapter 2: Previous Research Preference Rankings**

Checkoff News

- Beef and Sustainability
- Trend Bites
- Debunking Antibiotic Myths
- Engaging MBA Grads



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

Wrap-up Summary Thoughts

- Opportunity exists in multiple venues
  - Herd expansion pending?
  - Profitable prospects for sound management
  - Domestic demand strength warrants appreciation
  - Remain bullish on global demand going forward
    - Ongoing demand enhancement critical for profitability…

- Current and Potential Threats also persist
  - Uncertainty on many fronts restricts investment
  - Impact of Excess Capacity Resolution Lingers
  - Several examples of “infighting” within the industry

More information available at:

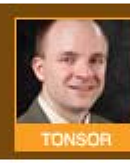
www.agmanager.info

This presentation will be available in PDF format at:

http://www.agmanager.info/about/contributors/individual/tonsor.asp

Glynn T. Tonsor
Associate Professor
Dept. of Agricultural Economics
Kansas State University
Email: gtonsor@ksu.edu
Twitter: @TonsorGlynn

webinars



WEBINAR
Beef-Cattle Economics

Co-Presented by BEEF meatingplace DROVERS K-STATE

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Beef-Cattle Economics webinar series

Series of quarterly webinars on beef-cattle markets and other industry-related issues.

For details about specific topics and registering for webinars see additional information on AgManager.info AND http://www.meatingplace.com/Industry/Webinars

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About AgManager.info

AgManager.info website is a comprehensive source of information, analysis, and decision-making tools for agricultural producers, agribusinesses, and others. The site serves as a clearinghouse for applied outreach information emanating from the Department of Agricultural Economics at Kansas State University. It was created by combining departmental and faculty sites as well as creating new features exclusive to the AgManager.info site. The goal of this coordination is to improve the organization of web-based material and allow greater access for agricultural producers and other clientele.

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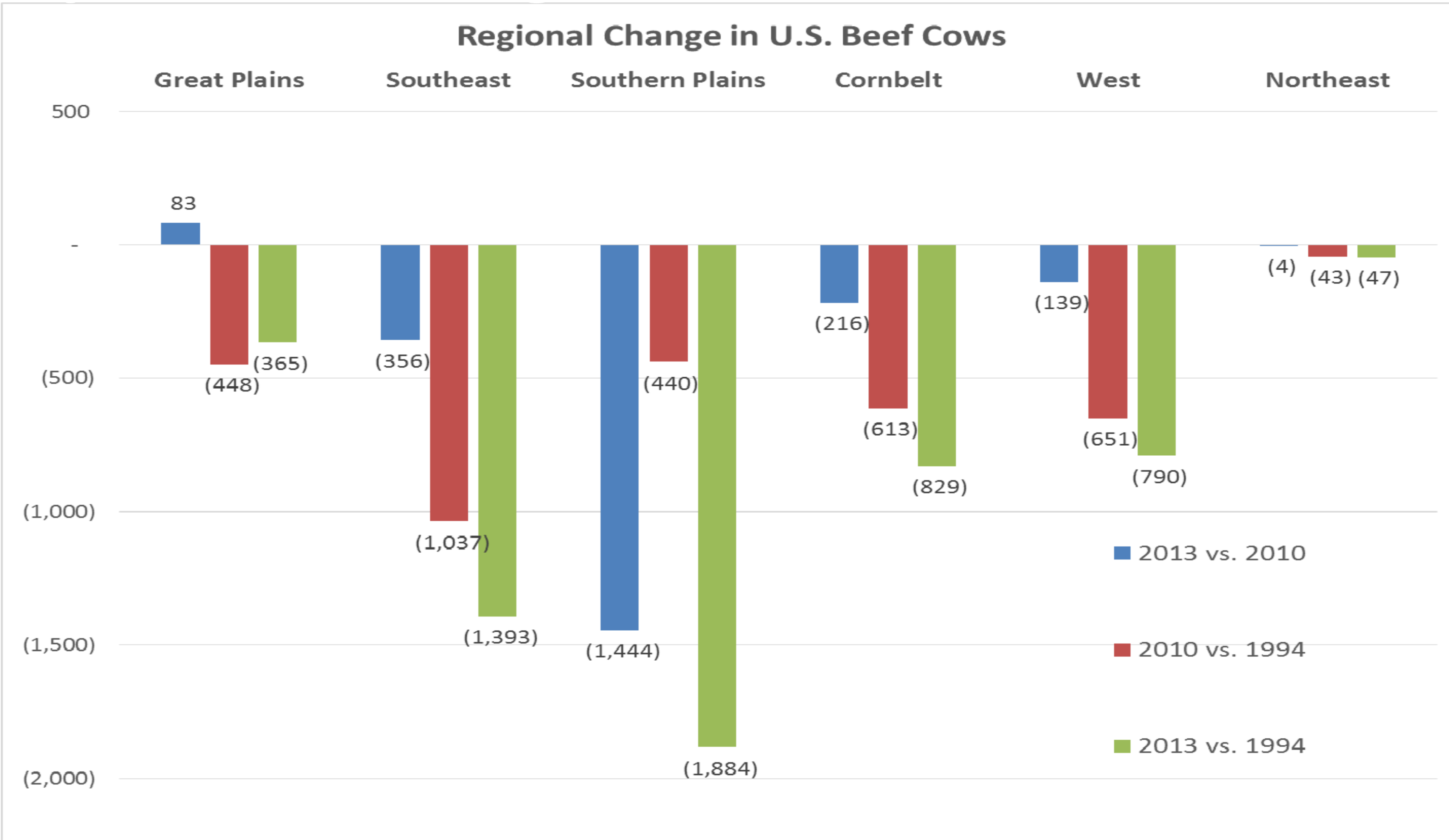

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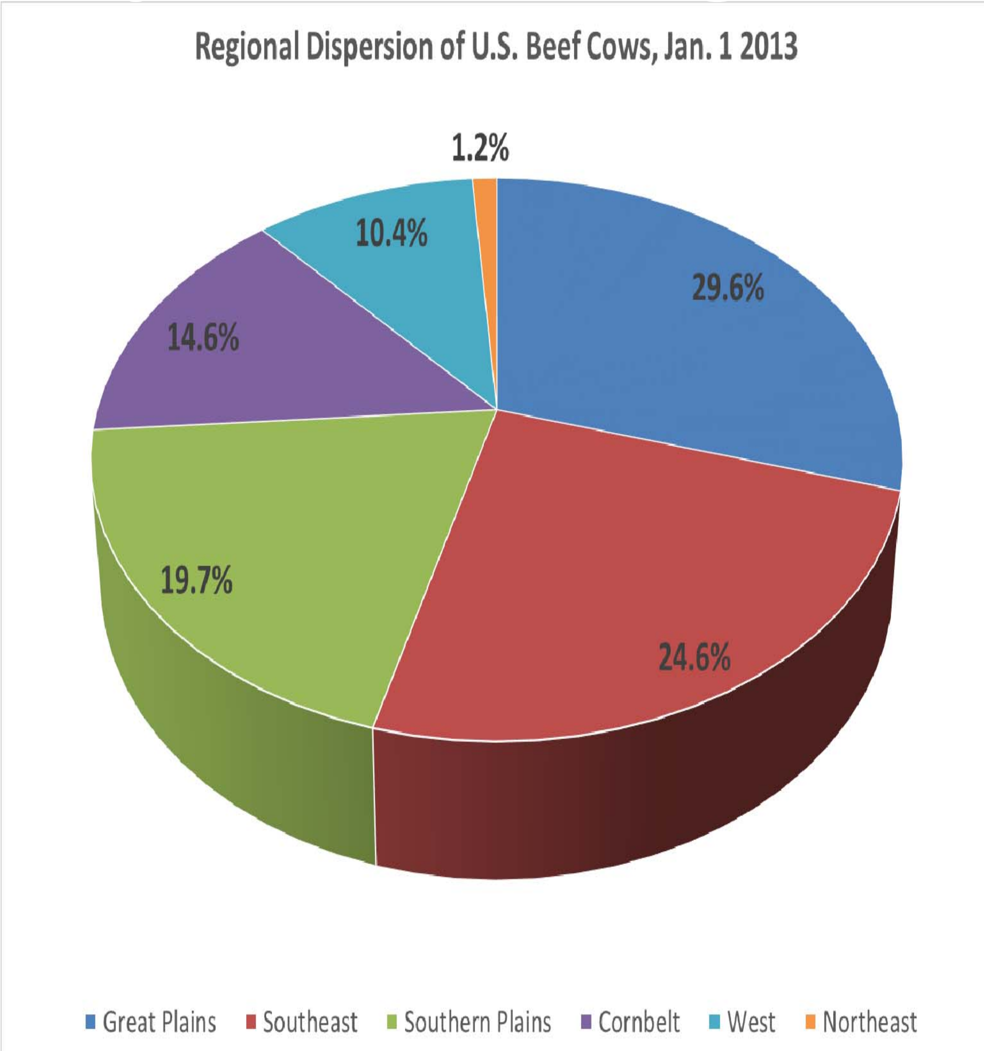

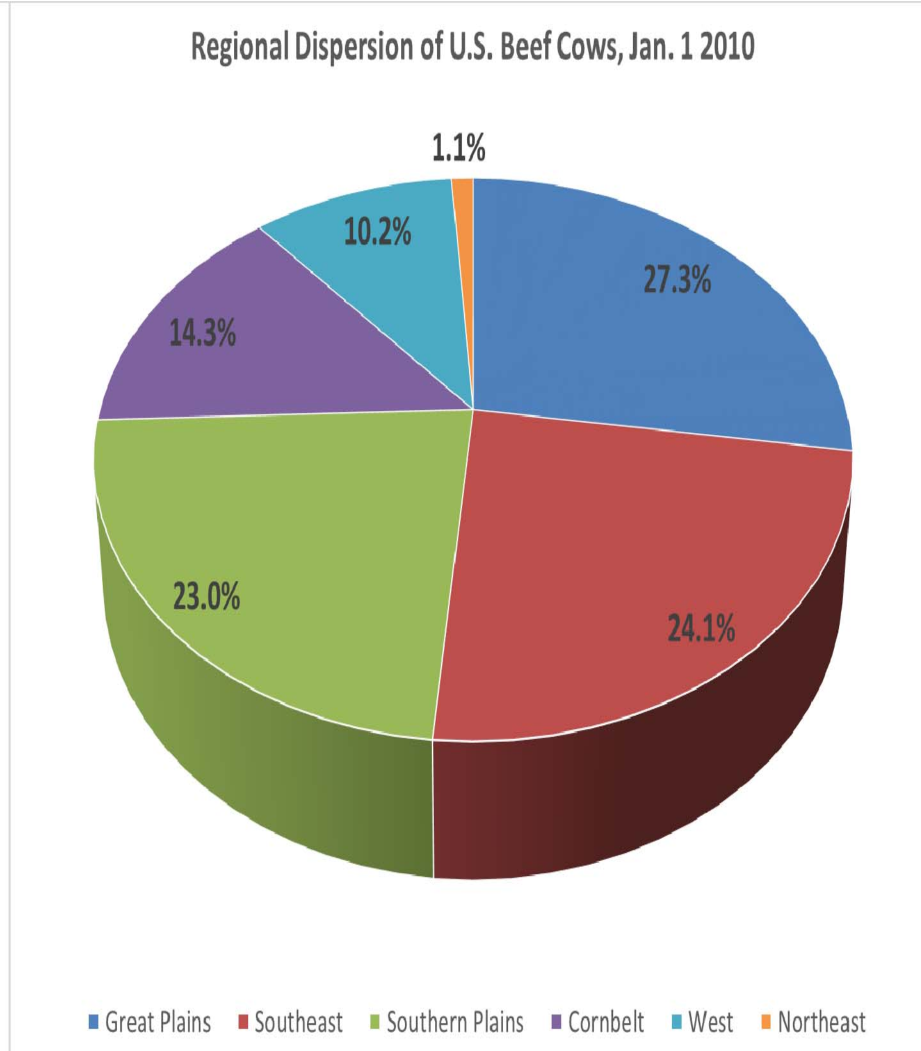

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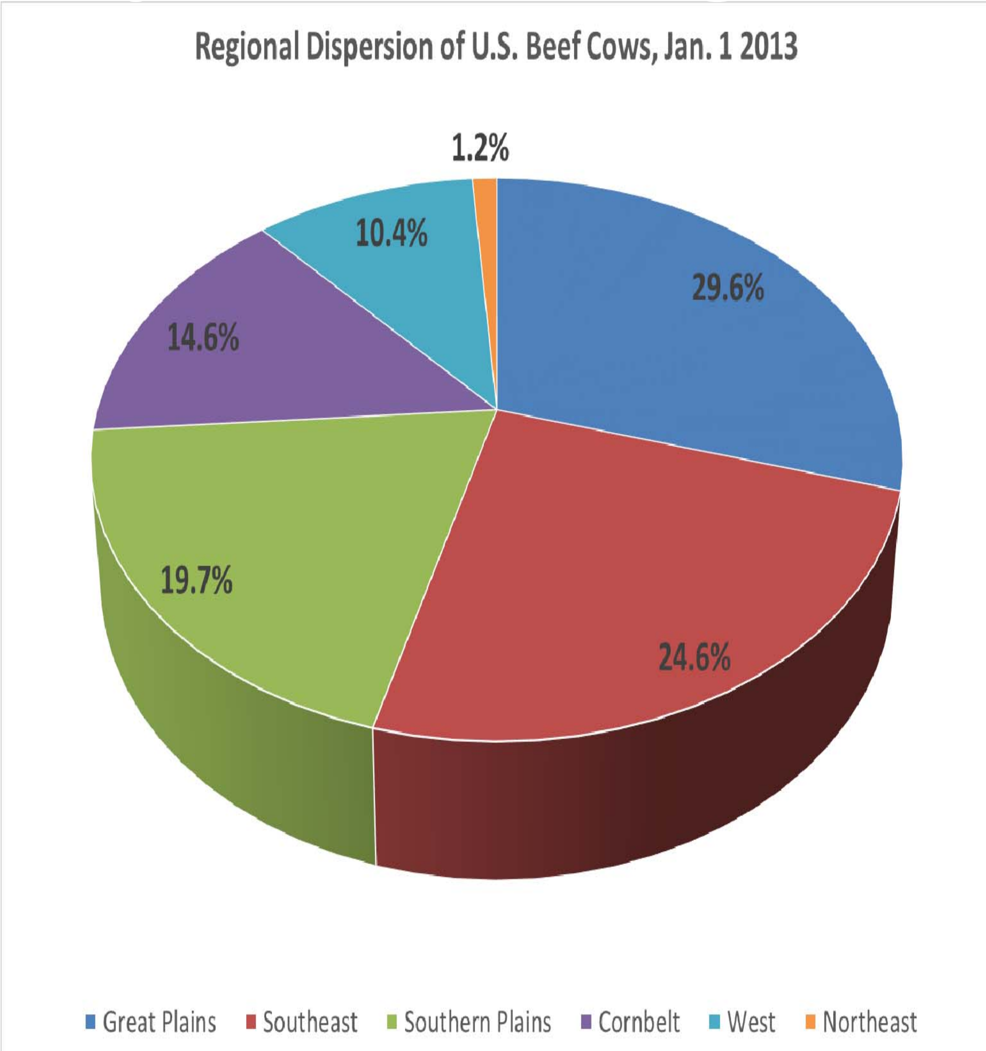

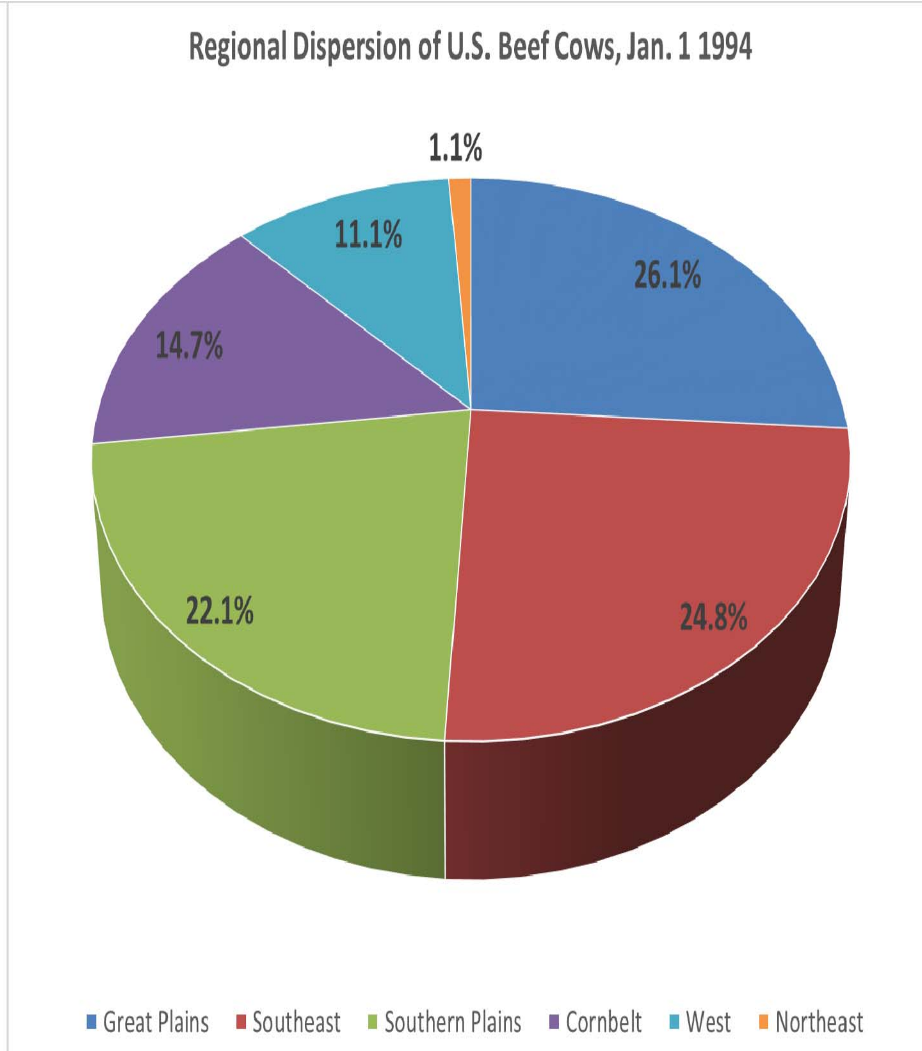

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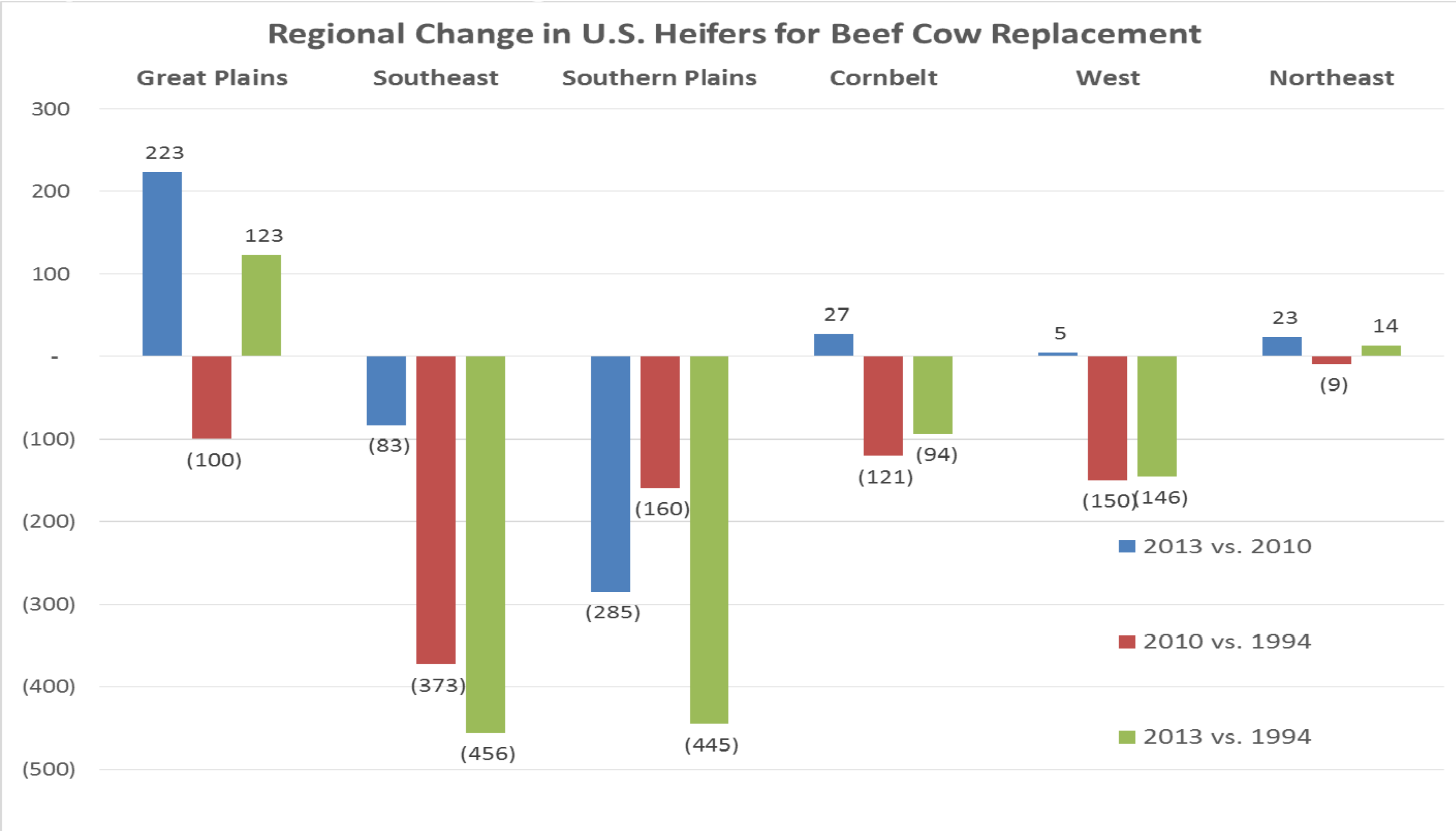

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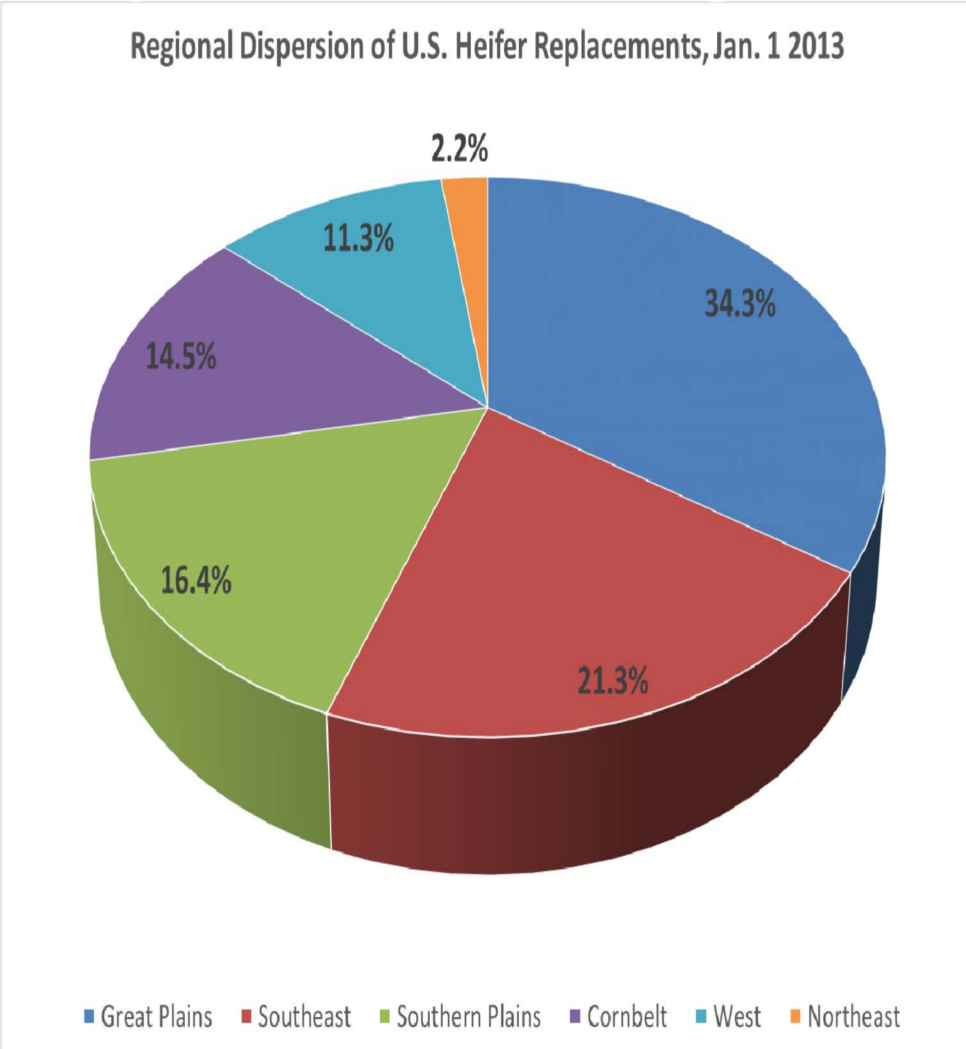

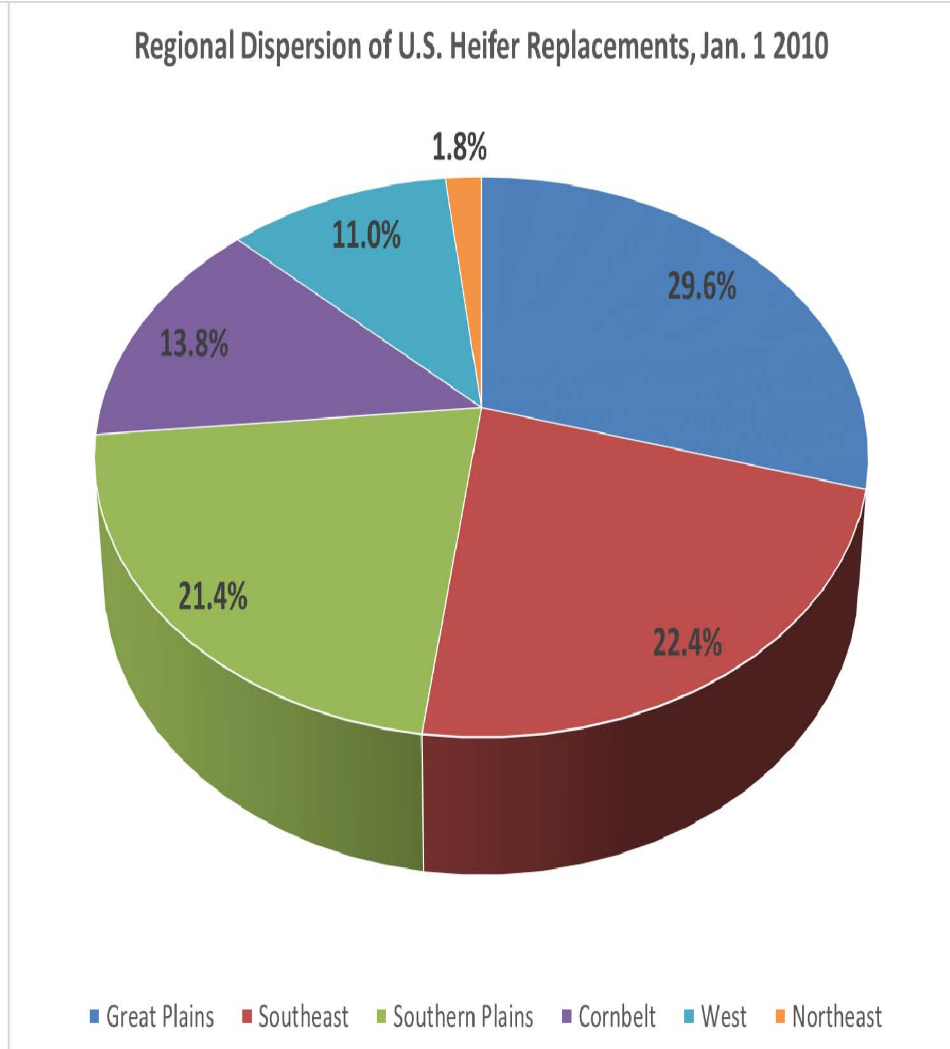

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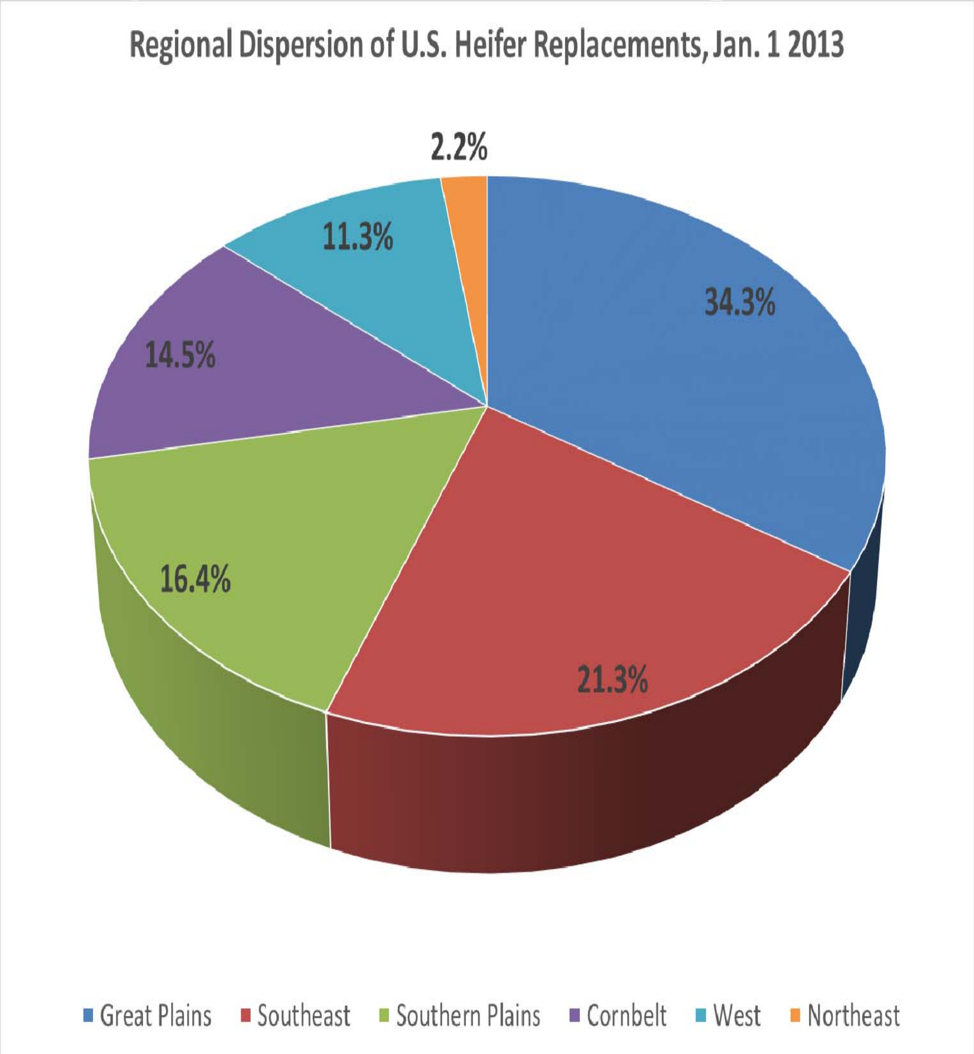

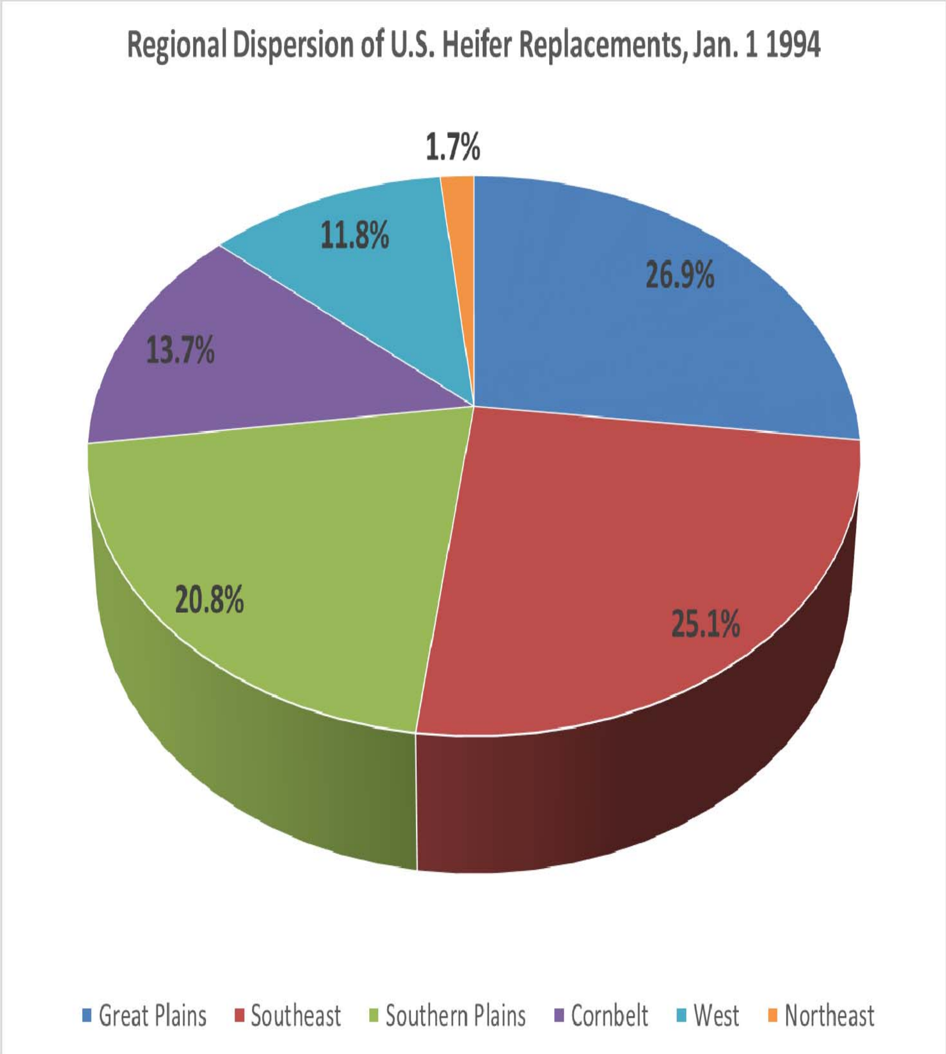

KSU-Beef Replacement

Table 3. Net Present Value of Beef Replacements, Analysis Summary Using Operating and Labor Costs *							
Year	Number of Calves	US	Great Plains	Southeast	Southern Plains	Cornbelt	West
2014	1	$821	$890	$786	$839	$597	$995
2015	2	$719	$844	$654	$751	$317	$1,030
2016	3	$627	$798	$540	$671	$85	$1,047
2017	4	$519	$723	$414	$572	($134)	$1,025
2018	5	$430	$660	$312	$489	($312)	$1,005
2019	6	$370	$620	$241	$435	($442)	$999
2020	7	$318	$584	$180	$387	($549)	$990
2021	8	$280	$558	$135	$352	($632)	$987
2022	9	$250	$539	$100	$325	($696)	$984
2023	10	$223	$520	$69	$301	($751)	$979
Key Inputs Varied Across Scenarios**:							
Annual operating and labor costs, $/cow/yr		$903	$923	$912	$898	$1,114	$725
Beef cows, head per farm/ranch		100	181	73	108	63	196
Avg Calf Weight, lbs		500	555	484	508	493	497
Avg Calf Price Slide, $/cwt		$8.42	$8.98	$8.23	$8.81	$7.11	$9.33

* NPV is Net Present Value of a replacement expected to produce the number of saleable calves listed in the "Number of Calves" column before a cow is culled for age-related reasons.

** Annual cost, calf weight, and calf price assumptions were varied with all other inputs set at their default settings as of 11-1-13.

KSU-Beef Replacement

Table 4. Net Present Value of Beef Replacements, Analysis Summary Using Only Operating Costs *							
Year	Number of Calves	US	Great Plains	Southeast	Southern Plains	Cornbelt	West
2014	1	$1,204	$1,174	$1,259	$1,210	$992	$1,302
2015	2	$1,406	$1,353	$1,504	$1,415	$1,025	$1,580
2016	3	$1,556	$1,485	$1,689	$1,569	$1,041	$1,792
2017	4	$1,639	$1,553	$1,800	$1,655	$1,019	$1,924
2018	5	$1,702	$1,602	$1,885	$1,720	$998	$2,025
2019	6	$1,763	$1,651	$1,964	$1,782	$993	$2,116
2020	7	$1,807	$1,686	$2,022	$1,827	$984	$2,184
2021	8	$1,845	$1,717	$2,071	$1,865	$980	$2,242
2022	9	$1,876	$1,743	$2,111	$1,897	$978	$2,288
2023	10	$1,897	$1,759	$2,139	$1,919	$972	$2,321
Key Inputs Varied Across Scenarios**:							
Annual operating costs, $/cow/yr		$520	$639	$438	$527	$720	$418
Beef cows, head per farm/ranch		100	181	73	108	63	196
Avg Calf Weight, lbs		500	555	484	508	493	497
Avg Calf Price Slide, $/cwt		$8.42	$8.98	$8.23	$8.81	$7.11	$9.33

* NPV is Net Present Value of a replacement expected to produce the number of saleable calves listed in the "Number of Calves" column before a cow is culled for age-related reasons.

** Annual cost, calf weight, and calf price assumptions were varied with all other inputs set at their default settings as of 11-1-13.

- Summary
  - Drought led to “Southern Plains heavy” culling
  - Crop-forage land allocation pressure varies
  - COP varies for several reasons
- Conclusion:
  - Southern Plains will rebuild some
  - SE & Heartland will continue trend of relative decline
  - Great/N. Plains & West will resume relative growth
    - Nationally more intense/alternative cow management likely necessary given land constraints…