

2016

Kansas State University

***AG
PROFITABILITY
CONFERENCE***

January 21, 2016

**Stafford County
Courthouse Annex
210 E. 3rd Ave
St. John, KS**

***Beef Cattle
Market Outlook &
Cow-Calf Decision-
Making Overview***



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Kansas State University**

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Department of Agricultural Economics**

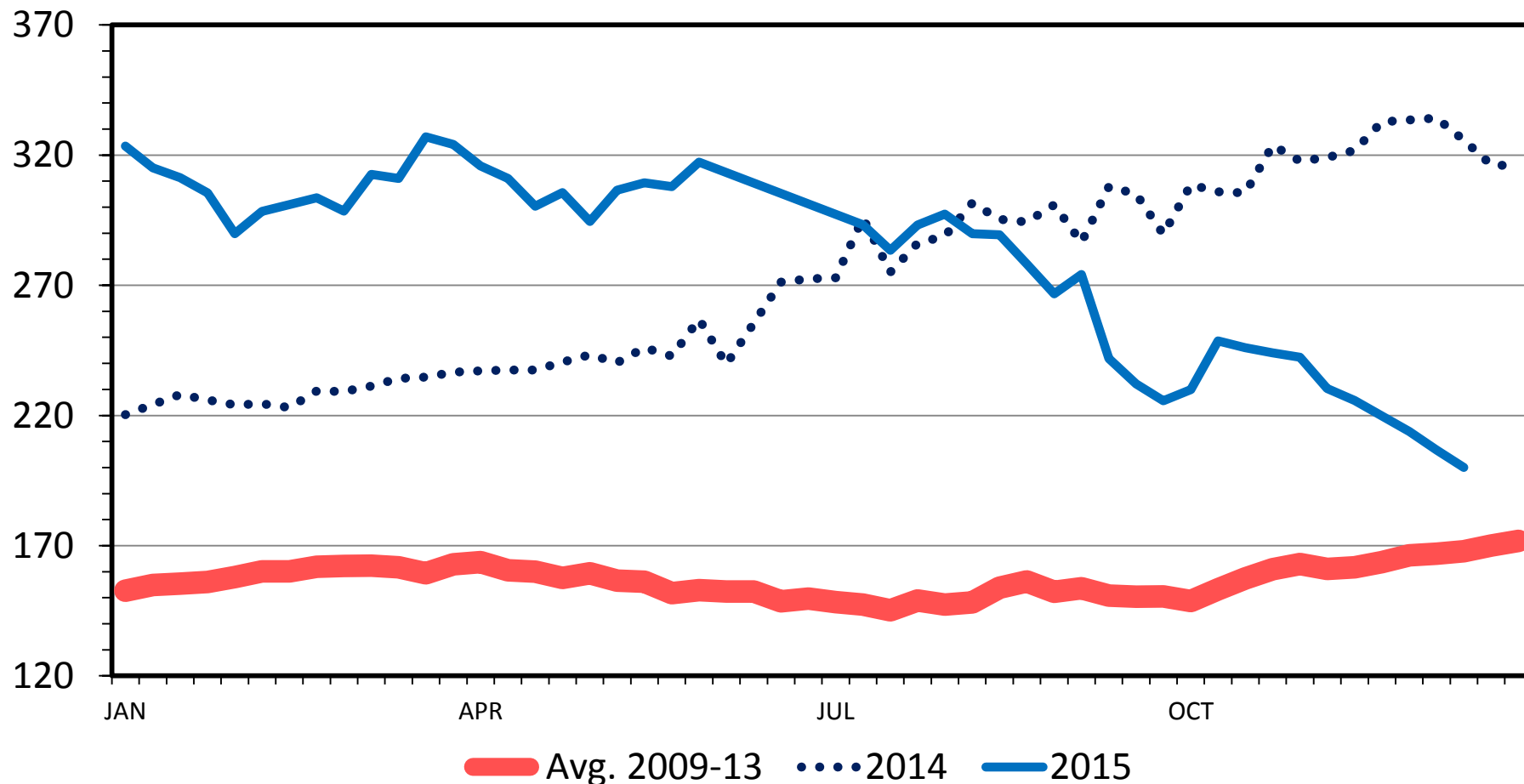
Overarching Beef Industry Economic Outlook

- Supplies
 - Historically tight
 - Herd expansion well underway
- Demand
 - Been positive 2010-2015
 - Concerns grown since ~September 2015

MED. & LRG. #1 STEER CALF PRICES

400-500 Pounds, Southern Plains, Weekly

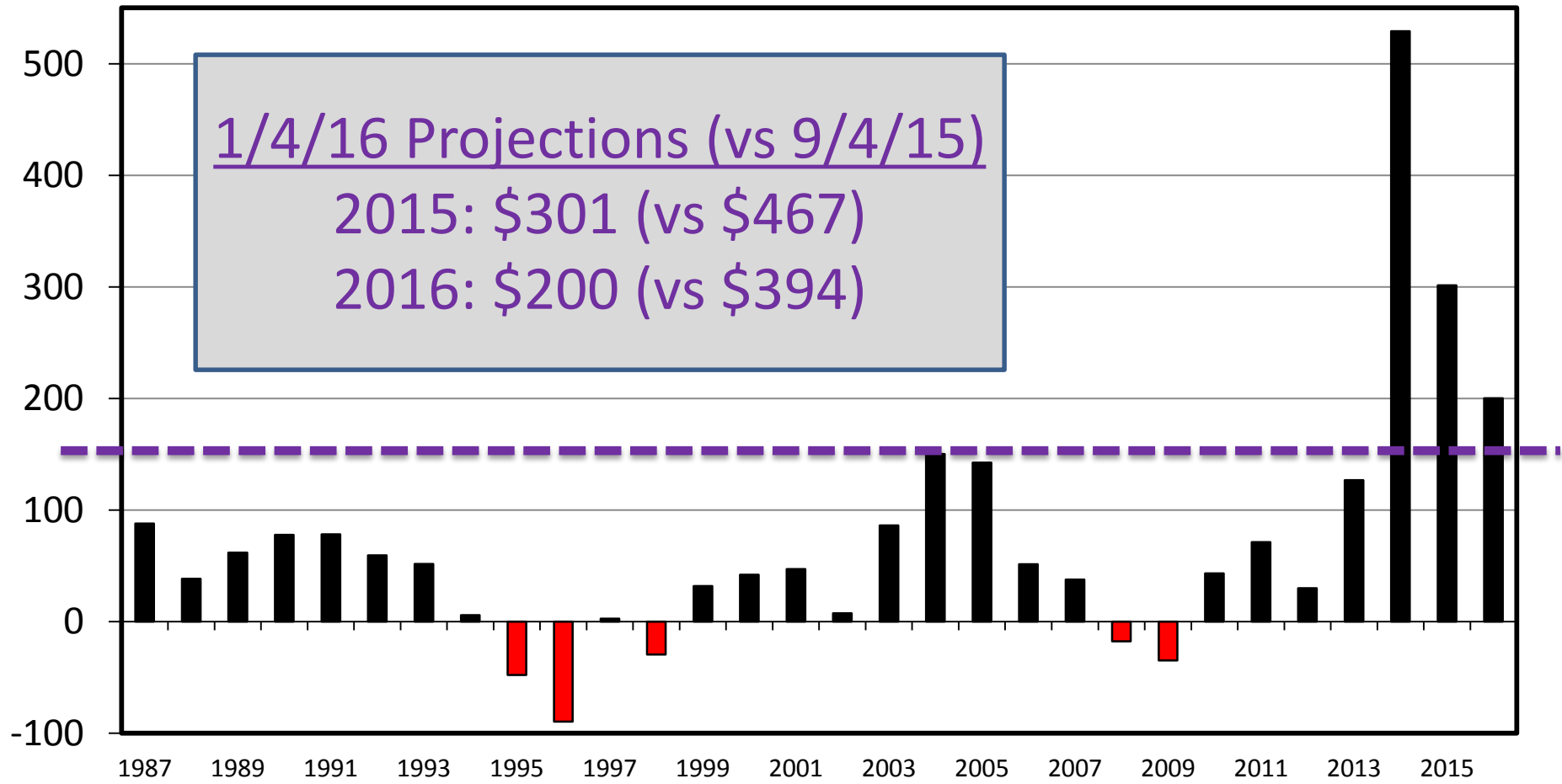
\$ Per Cwt.



ESTIMATED AVERAGE COW CALF RETURNS

Returns Over Cash Cost (Includes Pasture Rent), Annual

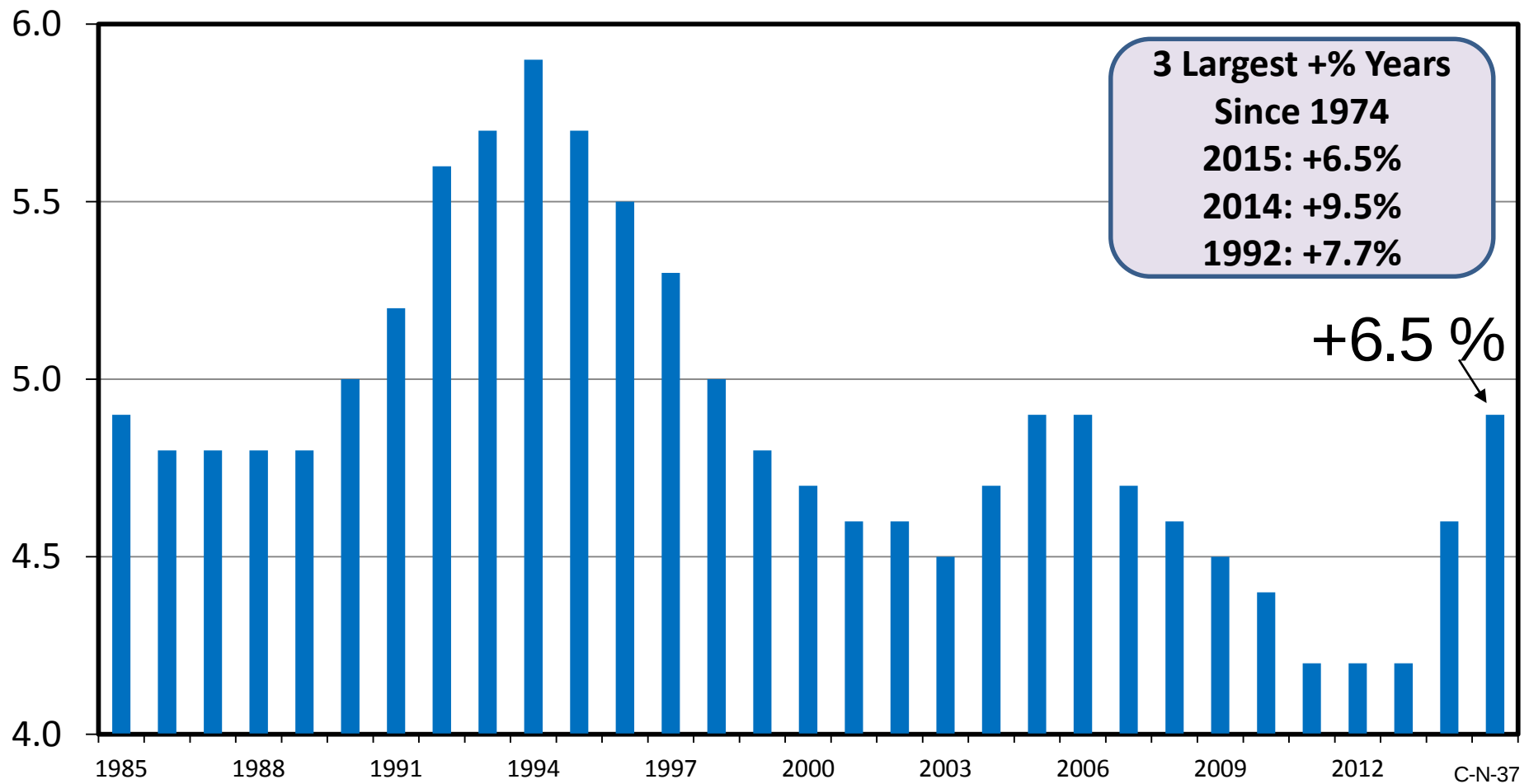
\$ Per Cow



HEIFERS HELD AS BEEF COW REPLACEMENTS

July 1, U.S.

Mil. Head



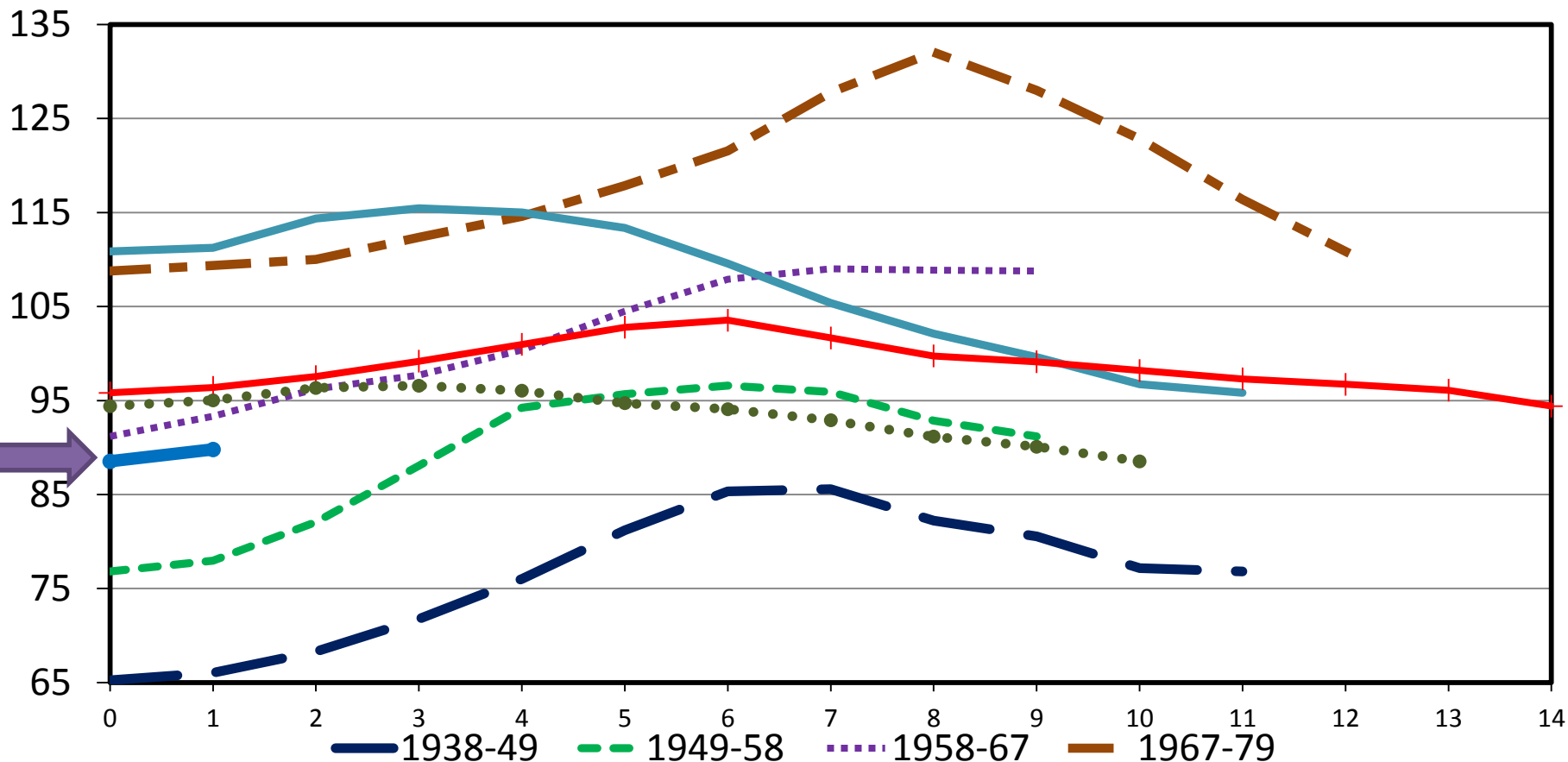
Data Source: USDA-NASS Livestock Marketing Information Center

C-N-37
07/28/15

TOTAL CATTLE INVENTORY BY CYCLE

U.S., January 1

Mil. Head



Data Source: USDA-NASS

Livestock Marketing Information Center

C-N-40
07/28/15

USDA Long-Term projections

Nov. 2015 pre-report release (<http://www.usda.gov/oce/commodity/projections/index.htm>)

Beef long-term projections		Recent		Next 5 Years					10 Years Out
Item	Units	2014	2015	2016	2017	2018	2019	2020	2025
Prices:									
Beef cattle, farm	\$/cwt	152.83	149.01	141.58	136.49	132.89	130.59	126.55	121.49
Calves, farm	\$/cwt	254.58	271.83	268.86	222.39	207.48	198.81	189.92	183.95
Steers, 5-area	\$/cwt	154.56	149.19	141.75	136.65	133.05	130.75	126.70	121.63
Feeder steers, Oklahoma City	\$/cwt	202.82	207.12	205.00	169.57	158.20	151.59	144.81	140.26
Feed price ratio:									
Beef cattle-corn	Ratio	34.3	40.3	38.8	37.9	36.4	35.3	34.2	32.4
Cattle inventory	1,000 head	88,526	89,800	92,900	95,200	95,700	96,200	96,600	97,400
Beef cow inventory	1,000 head	29,086	29,675	30,382	30,800	31,300	31,800	32,200	33,200
Total cow inventory	1,000 head	38,293	39,000	39,800	40,102	40,602	41,102	41,502	42,547

Note: Cwt = hundredweight.

2025 @ 33.2 million beef cows
 ➤ +14% from 2014
 ➤ Would be largest herd since 2001

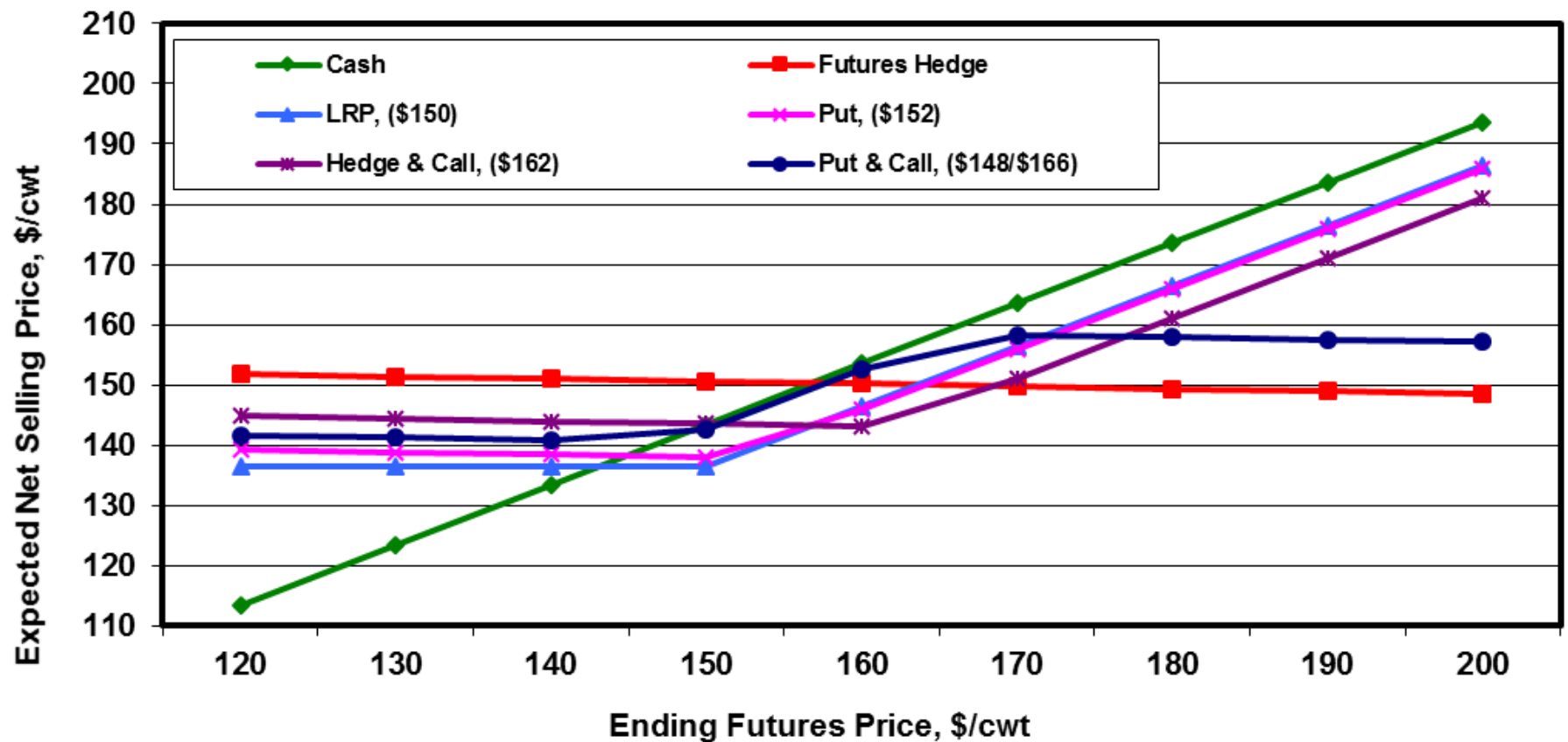
Feeder Cattle Price Risk Considerations: Quantitative Examples & Decision Aide Overview

Cow-Calf Output Price Hedging Considerations (as of 1/14/16)

- Salina, KS 1/14/16 situation:
 - Sell 800 lb yearlings on 5/3/16 (\$150.43)
- Considering price protection on May sale
 - Or for stocker/feedlots consider for buy in May
 - **USE: *FeederCattleRiskMgmtTool.xlsx***

Cow-Calf Output Price Hedging Considerations (as of 1/14/16)

Comparison of Alternative Expected Net Selling Prices



Key Expansion Questions of Ind. Ranches

- *Should I Expand My Herd?*
- *IF YES*
 - What Can/Should I Pay?*
 - Should I Raise or Buy Heifers?*
 - Should I Consider Buying Cows Instead?*

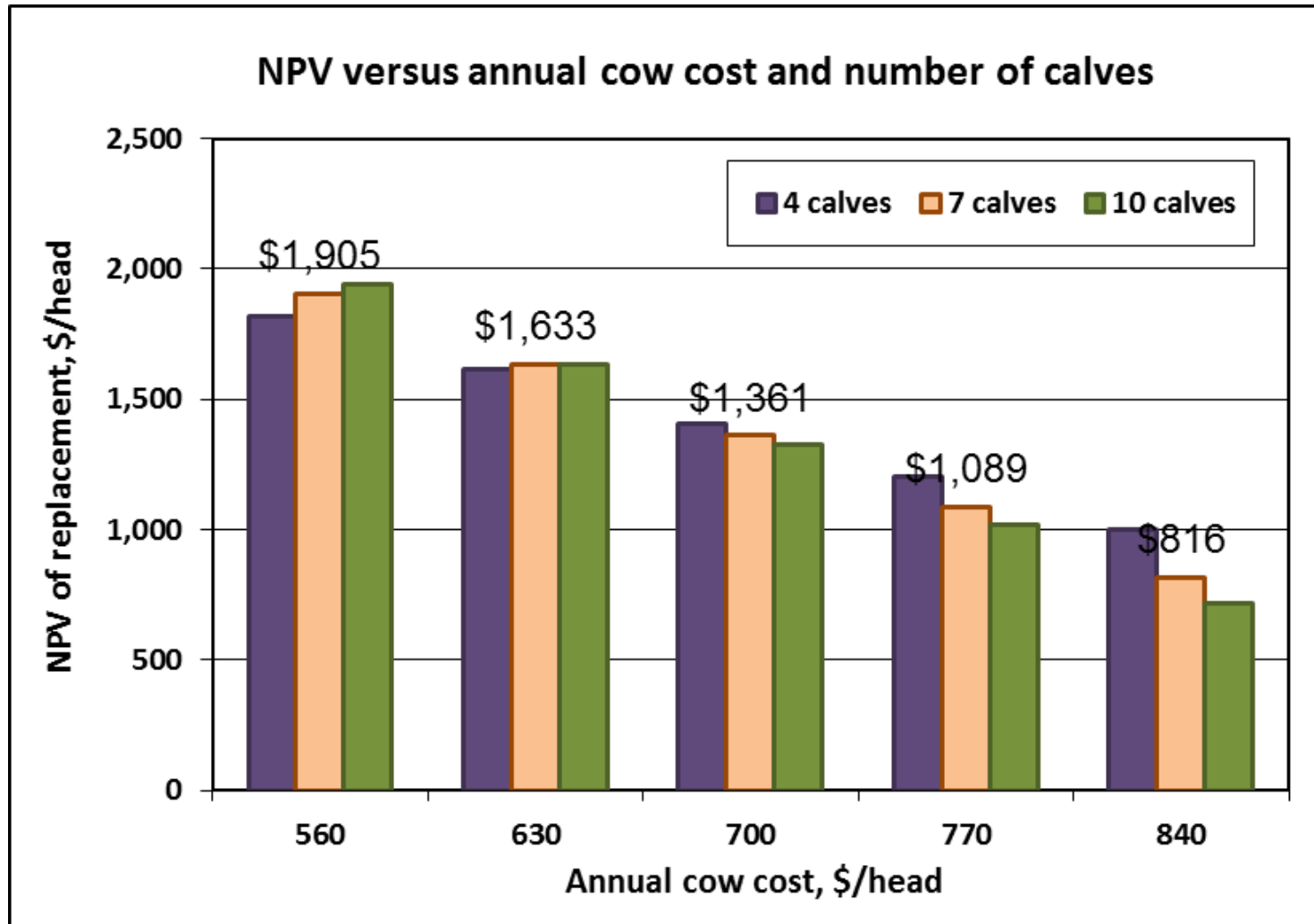
Cow-Calf – Expansion Discussion

- *What Can I pay for a Replacement?*
 - *KSU-Beef Replacement* spreadsheet
 - Two fact sheets and video tutorial also available online:
 - <http://www.agmanager.info/livestock/budgets/production/default.asp>

Cow-Calf – Expansion Discussion

- What Can I pay for a Replacement?*

KSU-Beef Replacement spreadsheet_(<http://www.agmanager.info/livestock/budgets/production/default.asp>)



Cow-Calf – Expansion Discussion

- What Can I pay for a Replacement?*

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
2016	1	\$1,492	\$1,562	\$1,492	\$1,712
2017	2	\$1,417	\$1,543	\$1,423	\$1,686
2018	3	\$1,414	\$1,584	\$1,424	\$1,728
2019	4	\$1,408	\$1,612	\$1,421	\$1,757
2020	5	\$1,388	\$1,621	\$1,404	\$1,764
2021	6	\$1,377	\$1,632	\$1,394	\$1,775
2022	7	\$1,361	\$1,633	\$1,378	\$1,775
2023	8	\$1,346	\$1,632	\$1,364	\$1,773
2024	9	\$1,336	\$1,633	\$1,354	\$1,772
2025	10	\$1,327	\$1,633	\$1,345	\$1,772

Hands-On Examination: Buy instead of Raise

- Likely most common situation:
 - Producer typically raises their own heifers and wants (or should) compare to buying instead.
 - Use Iowa State University resource (B1-73 “*Buying Heifers for Beef Cow Replacement*”) to identify changes in returns and costs that follow from buying rather than raising.

(<http://www.extension.iastate.edu/agdm/livestock/html/b1-73.html>)

Economic Outlook Overview: Stockers

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

- Salina, KS 1/21/16 situation (SPRING 2016):
 - Buy 600 lb steer on 1/22/16 (\$165)
 - Sell 725 lb steer on 04/22/16 (\$150) {1.36 ADG}
 - VOG: \$79/cwt
- IF COG \$80/cwt THEN Exp. Profit = +/- **-\$1**/hd

Economic Outlook Overview: Stockers

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

- Salina, KS 1/21/16 situation (FALL-SPRING 2017):
 - Buy 550 lb steer on 10/21/16 (\$156)
 - Sell 825 lb steer on 03/24/17 (\$129) {1.77 ADG}
 - VOG: \$74/cwt
- IF COG \$80/cwt THEN Exp. Profit = +/- **-\$17/hd**

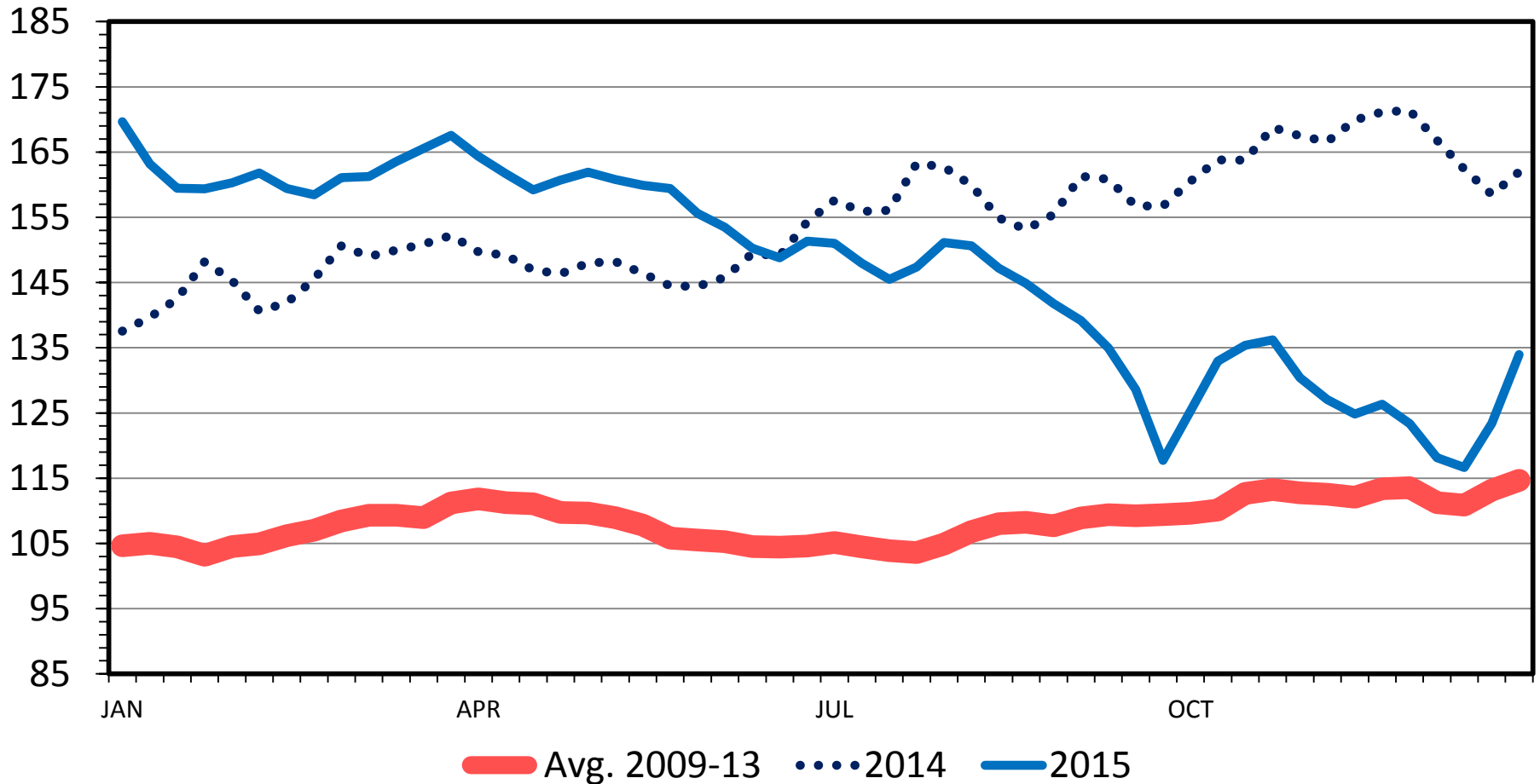
Economic Outlook Overview: Feedlots

- Poor 2015 cash returns
 - “Extra heavy” situation + demand concerns
- Structural concerns & uncertainty persist:
 - Excess capacity, Heifer Retention, Plant Closures, MCOOL, Cash Trade & Price Discovery...

SLAUGHTER STEER PRICES

5 Market Weighted Average, Weekly

\$ Per Cwt.



Data Source: USDA-AMS

Livestock Marketing Information Center

01/04/16

Historical and Projected Kansas Feedlot Net Returns (as of 1/8/16')

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

Representative Barometer for Trends in Profitability

Historical and Projected Kansas Feedlot Net Returns (as of 1/8/16')

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

November 2015 Summary

Revenue: \$1,881/steer (1,467 lbs @ \$128.22/cwt)

Feeder Cattle Purchase: \$1,836 / steer (842 lbs @ \$218.16/cwt)

Gross Margin (Fat-Feeder): \$45/steer

Break-Even COG (625 lbs added w/ interest costs): \$0.01/lb

VS

Estimated COG: \$0.81/lb

= *-\$500/steer margins*

Representative Barometer for Trends in Profitability

Historical and Projected Kansas Feedlot Net Returns (as of 1/8/16')

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

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
Dec-15	-571.07	84.85	125.95	213.61	-13.71	165.08	148.72
Jan-16	-289.72	85.31	144.16	209.03	32.88	164.25	176.47
Feb-16	-143.28	85.17	148.85	205.91	60.94	158.84	188.90
Mar-16	-118.29	84.26	142.70	190.91	63.20	151.06	177.04
Apr-16	-192.45	82.62	132.50	188.68	50.82	146.02	165.16
May-16	-179.78	82.72	130.48	181.00	52.04	143.09	159.58
Jun-16	-102.35	82.94	122.26	158.04	65.57	129.39	145.96
Jul-16	-41.01	83.47	124.92	152.66	76.35	127.72	148.06
Aug-16	33.40	82.36	127.06	150.18	87.98	124.80	153.97
Sep-16	44.95	82.92	128.01	149.40	90.49	125.01	154.37

Representative Barometer for Trends in Profitability

Quarterly Forecasts (LMIC: 1/8/16)

		% Chg.	Average	% Chg.	Comm'l	% Chg.
Year	Comm'l	from	Dressed	from	Beef	from
Quarter	Slaughter	Year Ago	Weight	Year Ago	Production	Year Ago
2015						
I	6,967	-5.5	813.0	2.2	5,664	-3.5
II	7,227	-7.8	810.1	2.7	5,855	-5.3
III	7,288	-4.5	832.4	2.8	6,066	-1.8
IV	7,261	-0.9	841.3	2.4	6,109	1.5
Year	28,743	-4.7	824.3	2.5	23,694	-2.3
2016						
I	7,113	2.1	821.2	1.0	5,841	3.1
II	7,332	1.5	813.4	0.4	5,964	1.9
III	7,624	4.6	835.5	0.4	6,370	5.0
IV	7,530	3.7	840.0	-0.2	6,325	3.5
Year	29,599	3.0	827.7	0.4	24,500	3.4
2017						
I	7,430	4.5	827.5	0.8	6,148	5.3
II	7,638	4.2	818.1	0.6	6,249	4.8
III	7,823	2.6	838.9	0.4	6,563	3.0
IV	7,856	4.3	842.4	0.3	6,618	4.6
Year	30,747	3.9	831.9	0.5	25,578	4.4

Quarterly Forecasts (LMIC: 1/8/16)

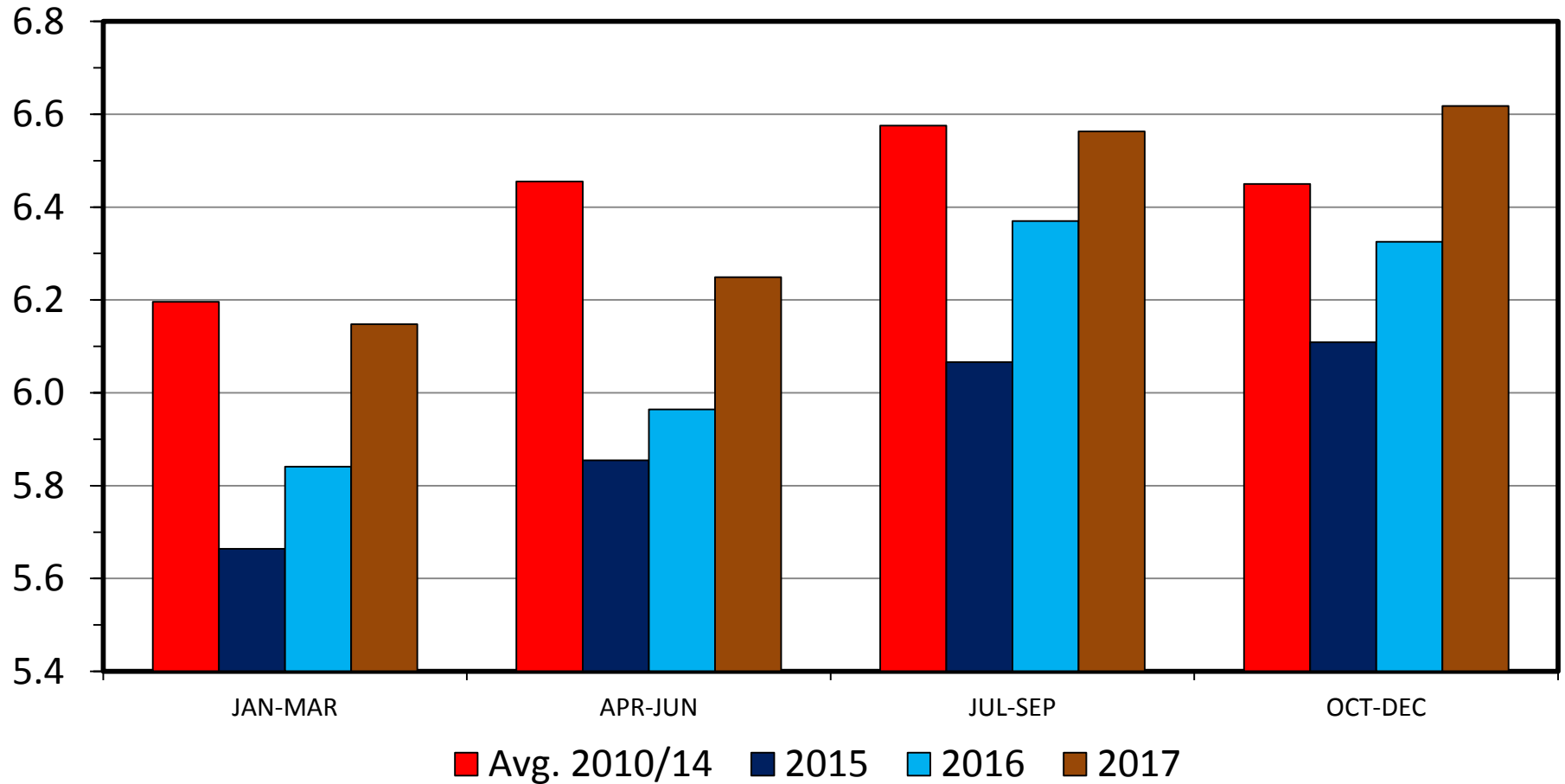
	Live Sltr.	% Chg.	Feeder Steer Price	
Year	Steer Price	from	Southern Plains	
Quarter	5-Mkt Avg	Year Ago	7-800#	5-600#
2015				
I	162.43	11.0	215.87	276.14
II	158.11	7.0	225.29	279.32
III	144.22	-9.0	214.38	246.04
IV	127.72	-22.9	177.29	203.51
Year	148.12	-4.2	208.21	251.25
2016				
I	136-139	-15.3	165-169	195-200
II	139-143	-10.8	167-172	198-205
III	133-138	-6.0	162-168	200-208
IV	131-137	4.9	159-166	191-200
Year	135-139	-7.5	163-169	196-203
2017				
I	132-139	-1.5	159-167	194-204
II	133-141	-2.8	160-169	196-208
III	127-136	-3.0	156-166	189-202
IV	127-137	-1.5	153-165	183-197
Year	131-137	-2.2	159-165	193-200

Beef, Pork, & Broiler Meat Production & Trade Overview

COMMERCIAL BEEF PRODUCTION

US, Quarterly

Bil. Pounds



Data Source: USDA-NASS, Forecasts by LMIC

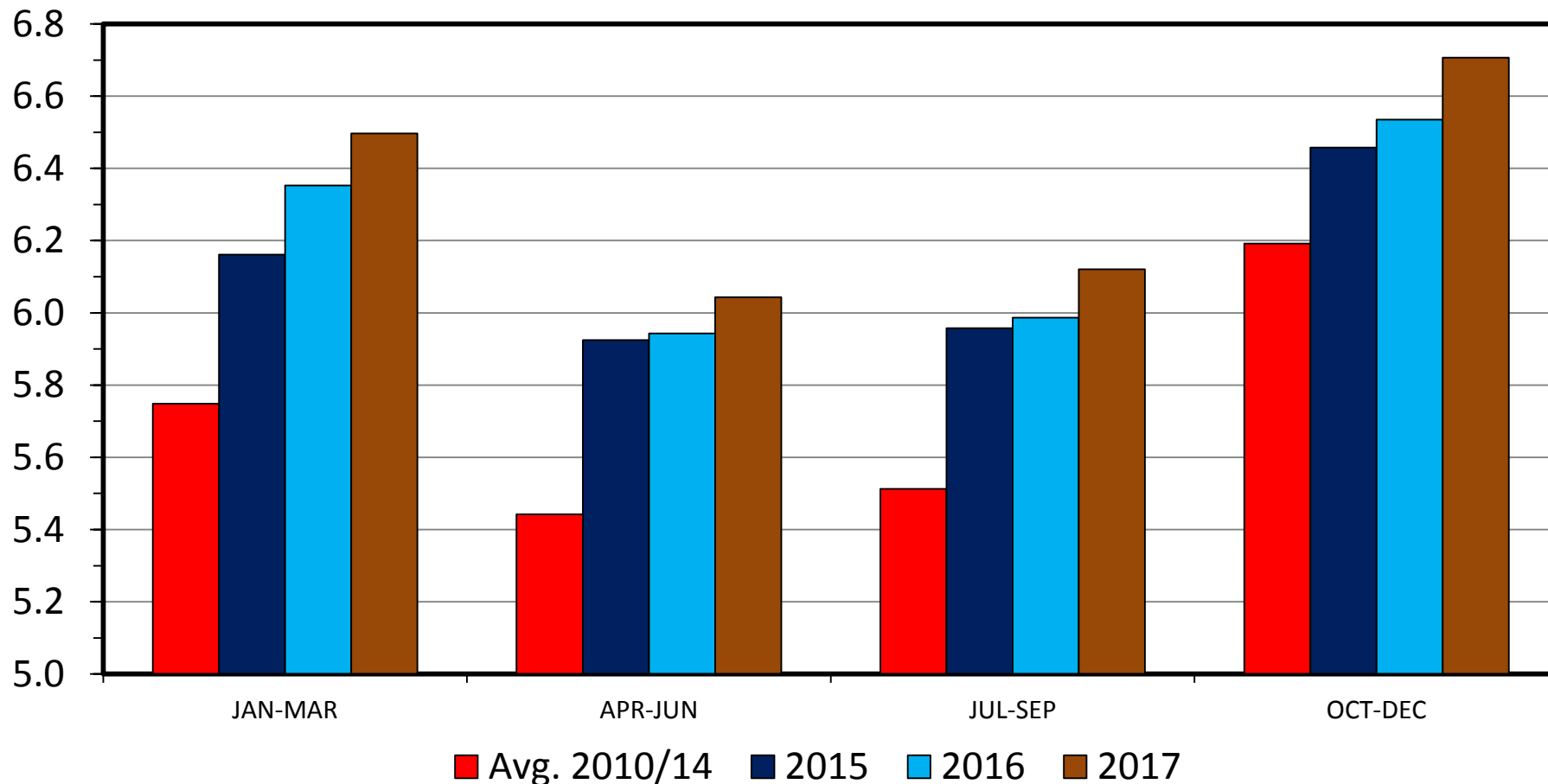
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M-S-01
01/04/16

COMMERCIAL PORK PRODUCTION

US, Quarterly

Bil. Pounds



Data Source: USDA-NASS, Forecasts by LMIC

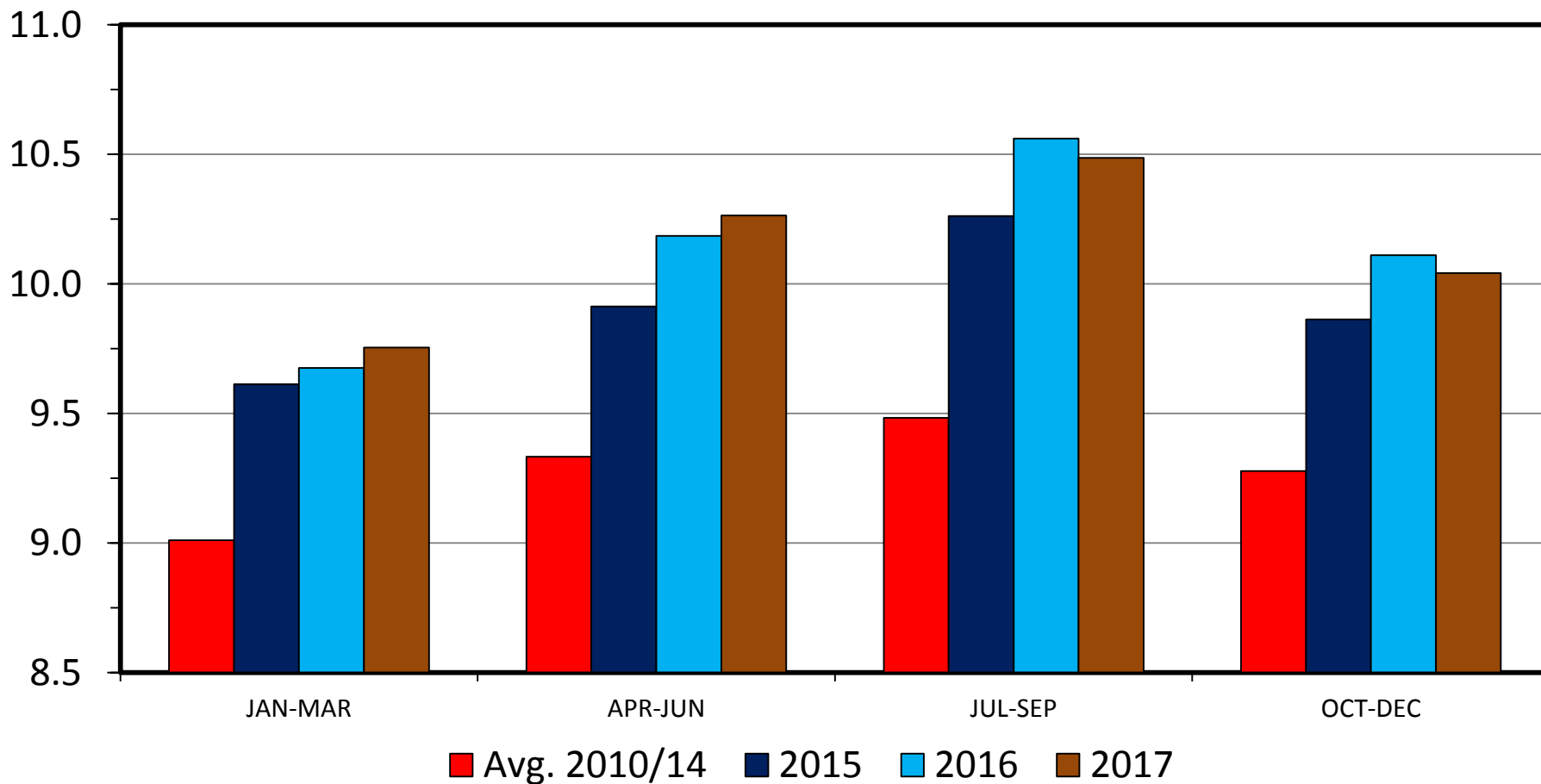
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M-S-06
01/04/16

RTC BROILER PRODUCTION

US, Quarterly

Bil. Pounds



Data Source: USDA-NASS, Forecasts by LMIC

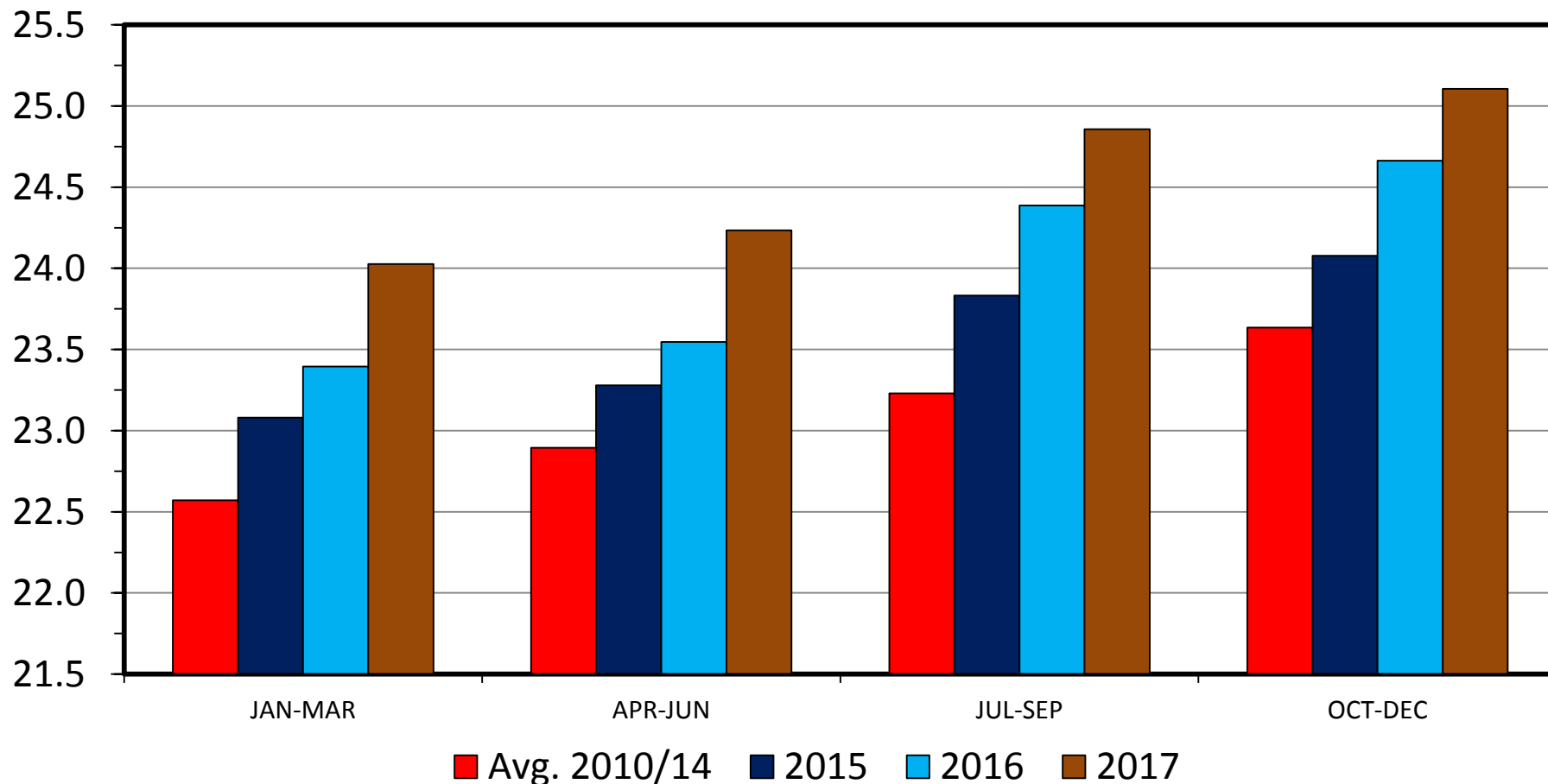
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01/04/16

TOTAL RED MEAT & POULTRY PRODUCTION

US, Quarterly

Bil. Pounds



Data Source: USDA-NASS, Forecasts by LMIC

Livestock Marketing Information Center

M-S-31
01/04/16

USDA Long-Term projections

Nov. 2015 pre-report release (<http://www.usda.gov/oce/commodity/projections/index.htm>)

Per capita meat cons., retail wt	Recent		Next 5 Years					10 Years Out	
Item	2014	2015	2016	2017	2018	2019	2020	2025	
	<i>Pounds</i>								
Beef	54.1	54.4	55.3	55.2	55.6	56.1	56.3	56.8	
Pork	46.4	49.5	49.7	50.1	50.5	50.8	50.9	51.1	
Total red meat	101.7	105.2	106.1	106.5	107.2	108.0	108.3	108.9	
Broilers	83.3	89.1	89.6	89.5	89.8	90.2	90.7	91.5	
Turkeys	15.7	15.8	16.2	16.7	17.0	17.1	17.2	17.3	
Total poultry	100.3	106.1	107.1	107.5	108.1	108.7	109.3	110.3	
Red meat & poultry	202.1	211.2	213.2	214.0	215.3	216.7	217.6	219.2	

Projections INCLUDE growing export forecasts...

USDA Long-Term projections

Nov. 2015 pre-report release (<http://www.usda.gov/oce/commodity/projections/index.htm>)

Beef long-term projections		Recent		Next 5 Years					10 Years Out
Item	Units	2014	2015	2016	2017	2018	2019	2020	2025
Total production	Mil. lbs.	24,320	23,780	24,914	25,295	25,761	26,296	26,684	28,057
Imports	Mil. lbs.	2,947	3,432	3,045	2,950	2,975	3,000	3,050	3,300
Total supply	Mil. lbs.	27,851	27,803	28,559	28,805	29,296	29,856	30,294	31,917
Exports	Mil. lbs.	2,573	2,223	2,425	2,500	2,650	2,800	2,925	3,400
Total consumption	Mil. lbs.	24,687	24,980	25,574	25,745	26,086	26,496	26,809	27,957
Per capita, retail weight	Pounds	54.1	54.4	55.3	55.2	55.6	56.1	56.3	56.8
Change from previous year	Percent	-3.8	0.5	1.6	-0.1	0.6	0.9	0.5	0.0

2025 vs 2015 Exports

➤ +53% in Volume

➤ 12.1% (2025) vs.9.3% (2015) of Production

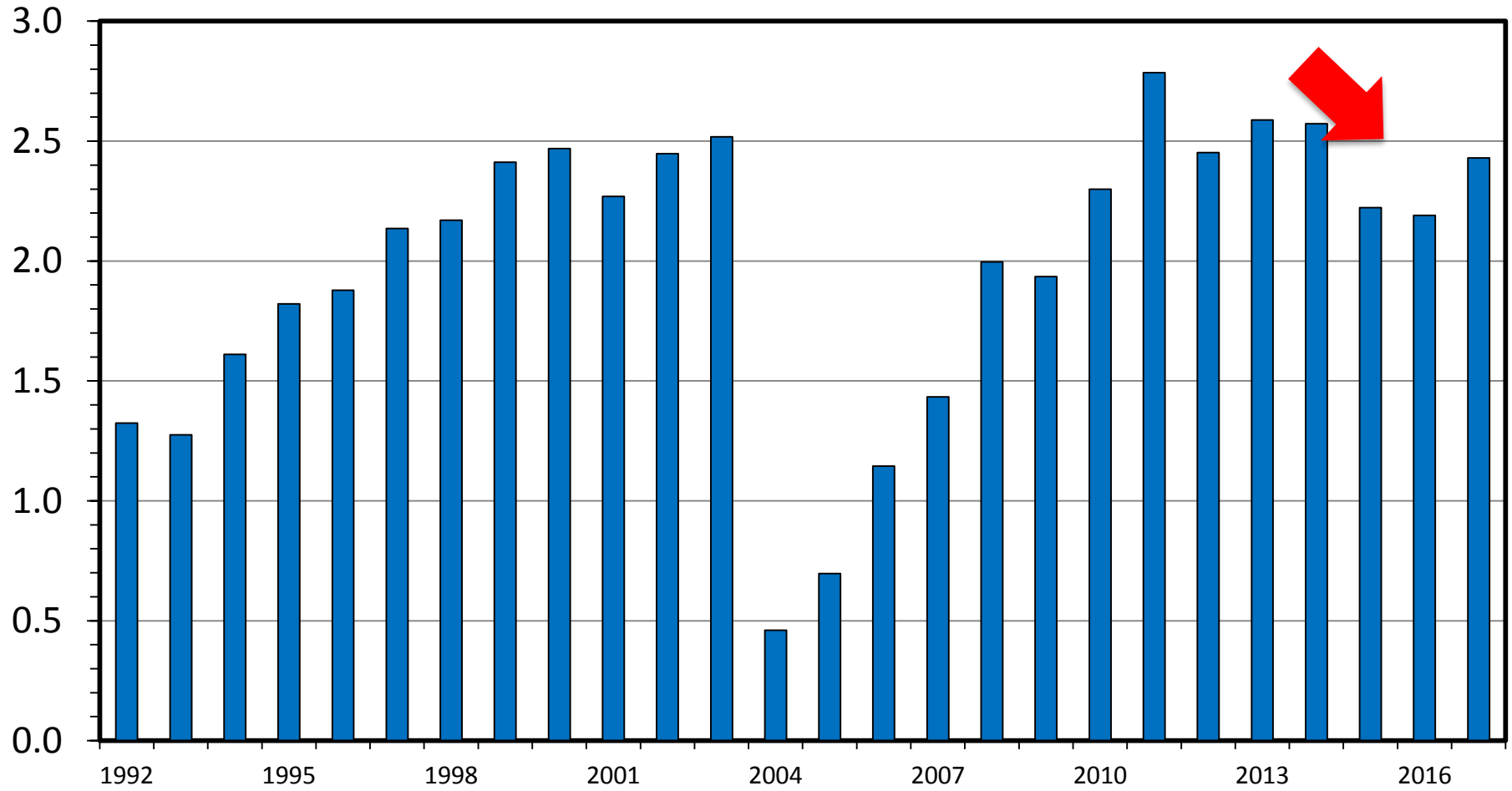
Broad “Global Factors”

- Recent adverse developments:
 - Geo-political risks
 - Global GDP forecast reductions
 - U.S. Dollar strength = pressure on U.S. exports
- Longer-term positive aspects:
 - Global population & income growth
 - U.S. maintains multiple comparative advantages

US BEEF AND VEAL EXPORTS

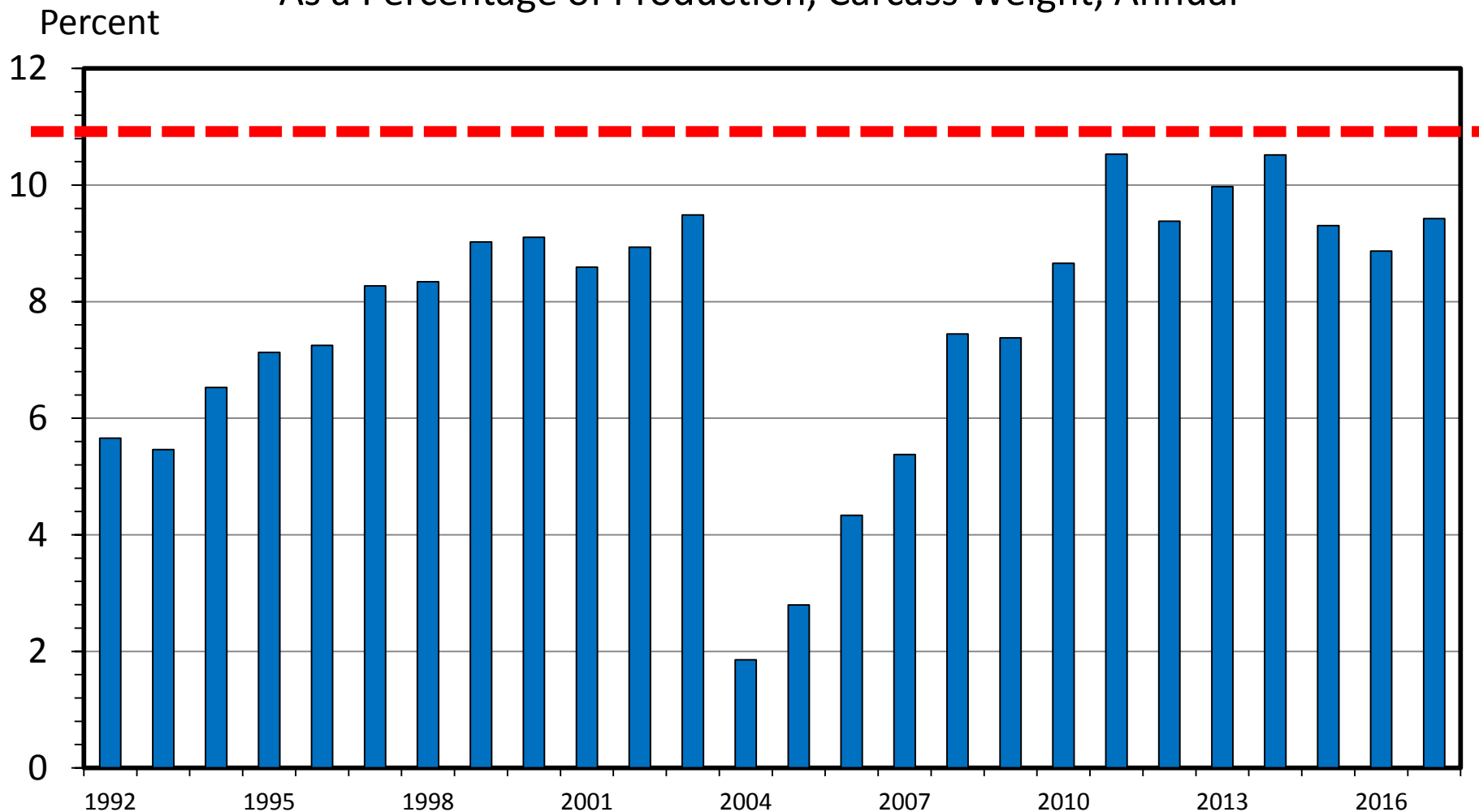
Carcass Weight, Annual

Bil. Pounds



US BEEF AND VEAL EXPORTS

As a Percentage of Production, Carcass Weight, Annual



Data Source: USDA-ERS & USDA-FAS, Compiled & Analysis by LMIC

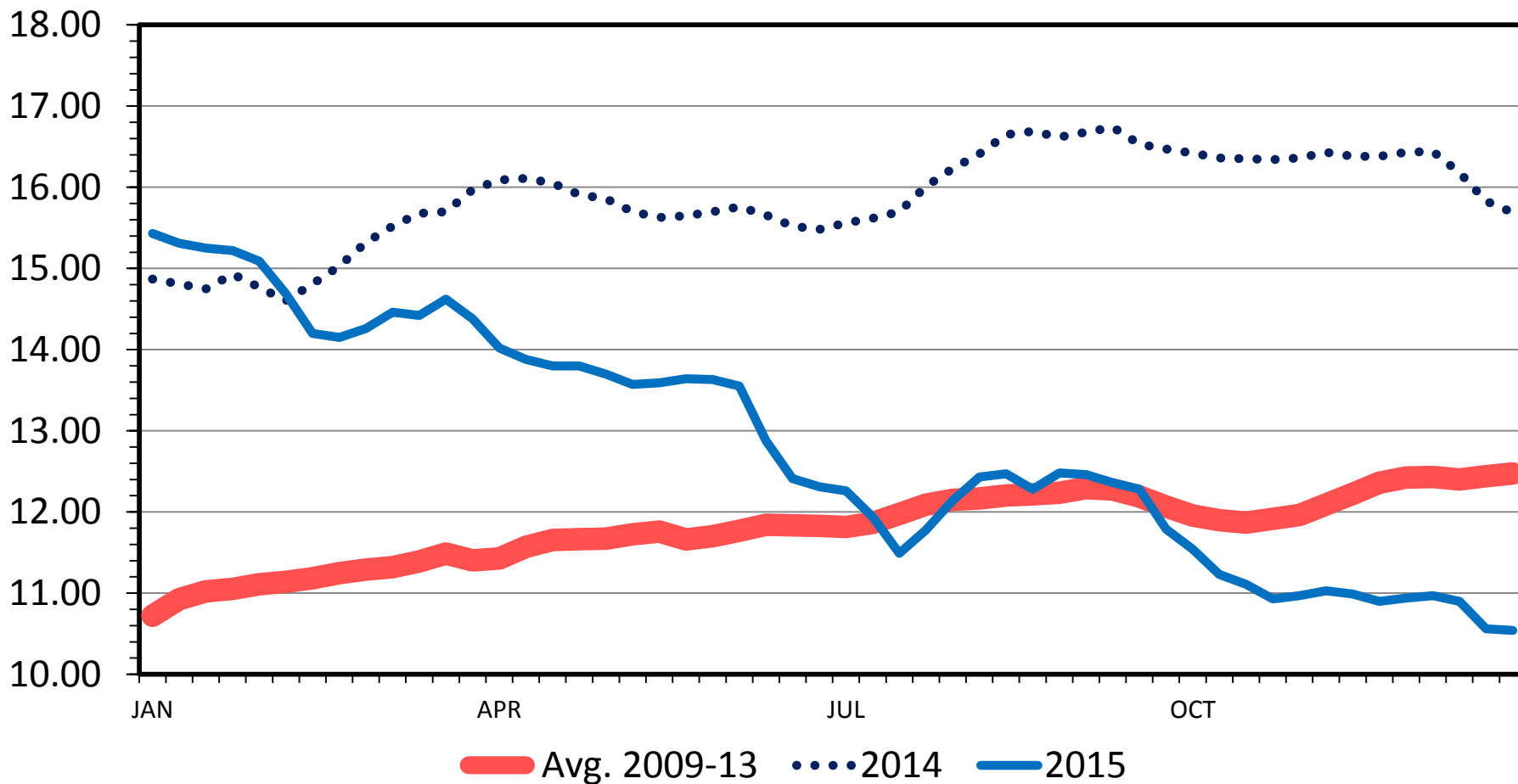
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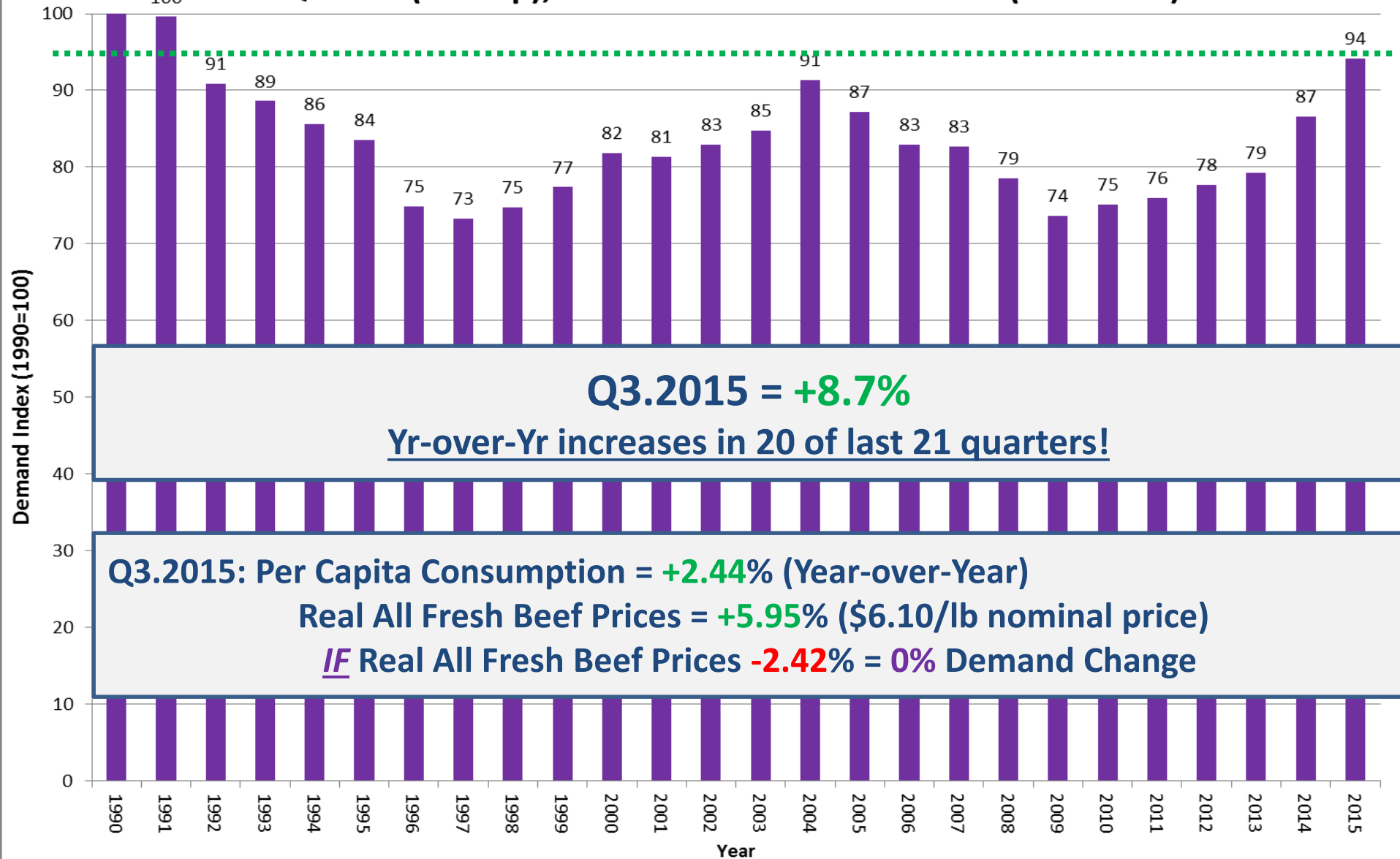
STEER HIDE AND OFFAL VALUE

Live Animal Basis, Weekly

\$ Per Cwt.



3rd Quarter (Jul-Sep), All Fresh Beef Demand Index (1990=100)



Source: Glynn T. Tonsor, Kansas State University, Oct. 2015

Take-Home Summary Points

- Industry at tipping point on role of tight supplies
- **Demand's role will become clearer going forward**
 - http://www.agmanager.info/livestock/marketing/Beef%20Demand/BeefDemand_08-28-15.pdf
- Identifying & acting upon comparative advantage will increasingly be key!

More information available at:



This presentation will be available in PDF format at:

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

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Decision Aides & Resources to Note

- K-State
 - KSU-Beef Replacements (Excel tool & Video tutorial)
<http://www.agmanager.info/Tools/default.asp#LIVESTOCK>
 - Factsheets: Replacement NPV Regional Analysis & Sensitivity
<http://www.agmanager.info/livestock/budgets/production/default.asp>
 - MF2566 Raising Beef Replacement Heifers
<http://www.ksre.ksu.edu/bookstore/pubs/mf2566.pdf>
 - Updated projections, charts, etc.:
<http://www.agmanager.info/about/contributors/Presentations/Tonsor/presentations.asp>
- Iowa State (Schulz and Gunn, Jan. 2014)
 - B1-73: Buying Heifers & Raising Heifers for Replacements
<http://www.extension.iastate.edu/agdm/livestock/html/b1-73.html>
- Univ. of Nebraska-Lincoln
 - <http://www.extension.umn.edu/agriculture/beef/components/homestudy/replesson6.pdf>