

***2018 Performance Beef  
Winter Conference***

***Sioux Falls, SD Feb. 22, 2018***

***Beef-Cattle Outlook &  
Further Examination of  
Feedlot Management Info.***

**Glynn Tonsor  
Dept. of Agricultural Economics,  
Kansas State University**

# Overarching Beef Industry Economic Outlook

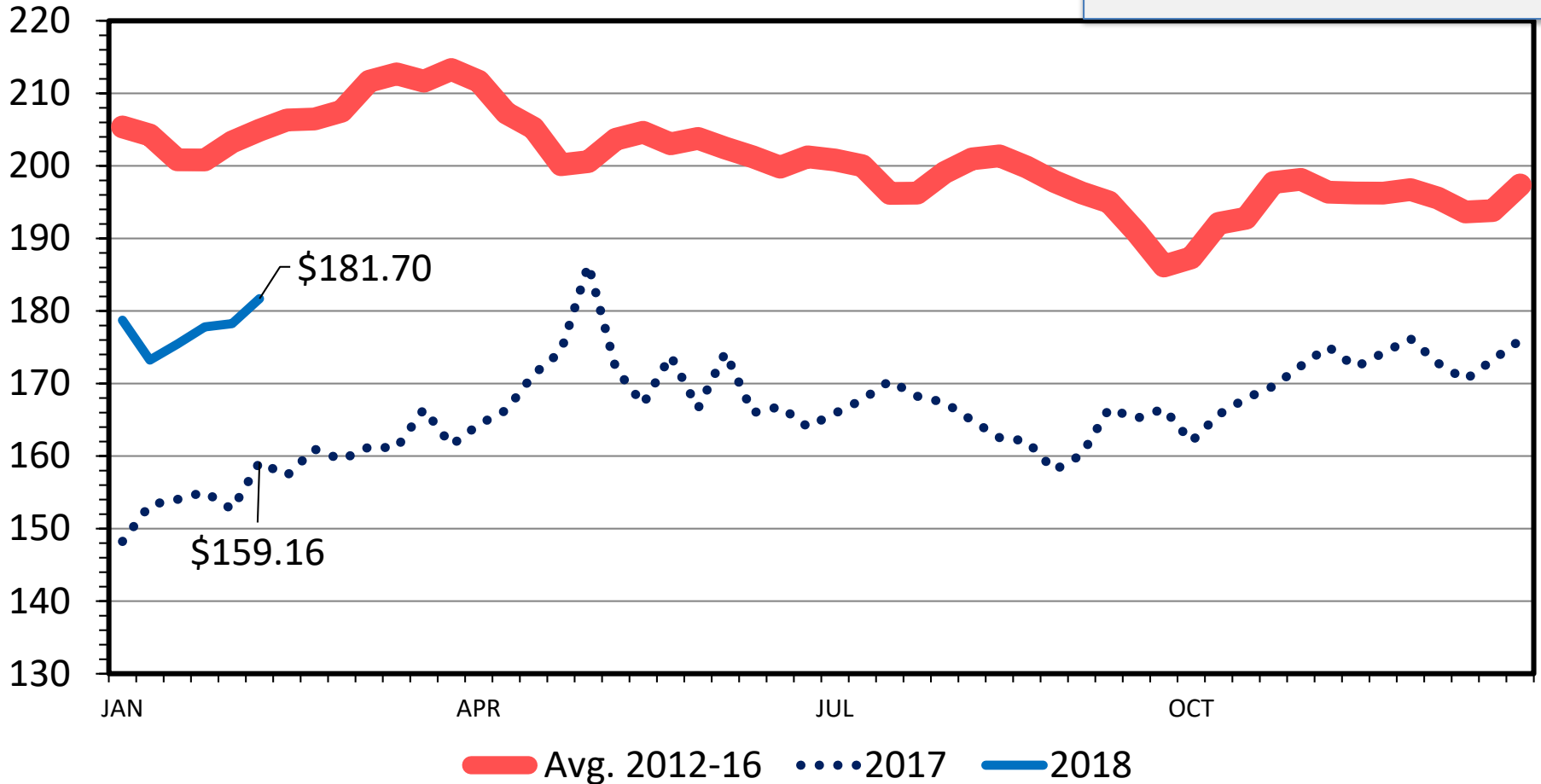
- Supplies
  - Beef Production Up
    - +6.4% in 2016, +3.8% in 2017, +4.7% in 2018, +1.8% in 2019
- Demand
  - Key to surprising prices in 2017
    - Q4: Production +2%; Fed Prices +9% & Calf Prices +23%
  - Exports continue to be key
    - >\$250/hd value since 2014 (USMEF)

**Beef Basis, Sioux Falls SD**  
**2018 Projections**  
**(as of 2/18/18):**  
**Oct. 17: \$182**

# MED. & LRG. #1 STEER CALF PRICES

500-600 Pounds, Southern Plains, Weekly

\$ Per Cwt.



Data Source: USDA-AMS

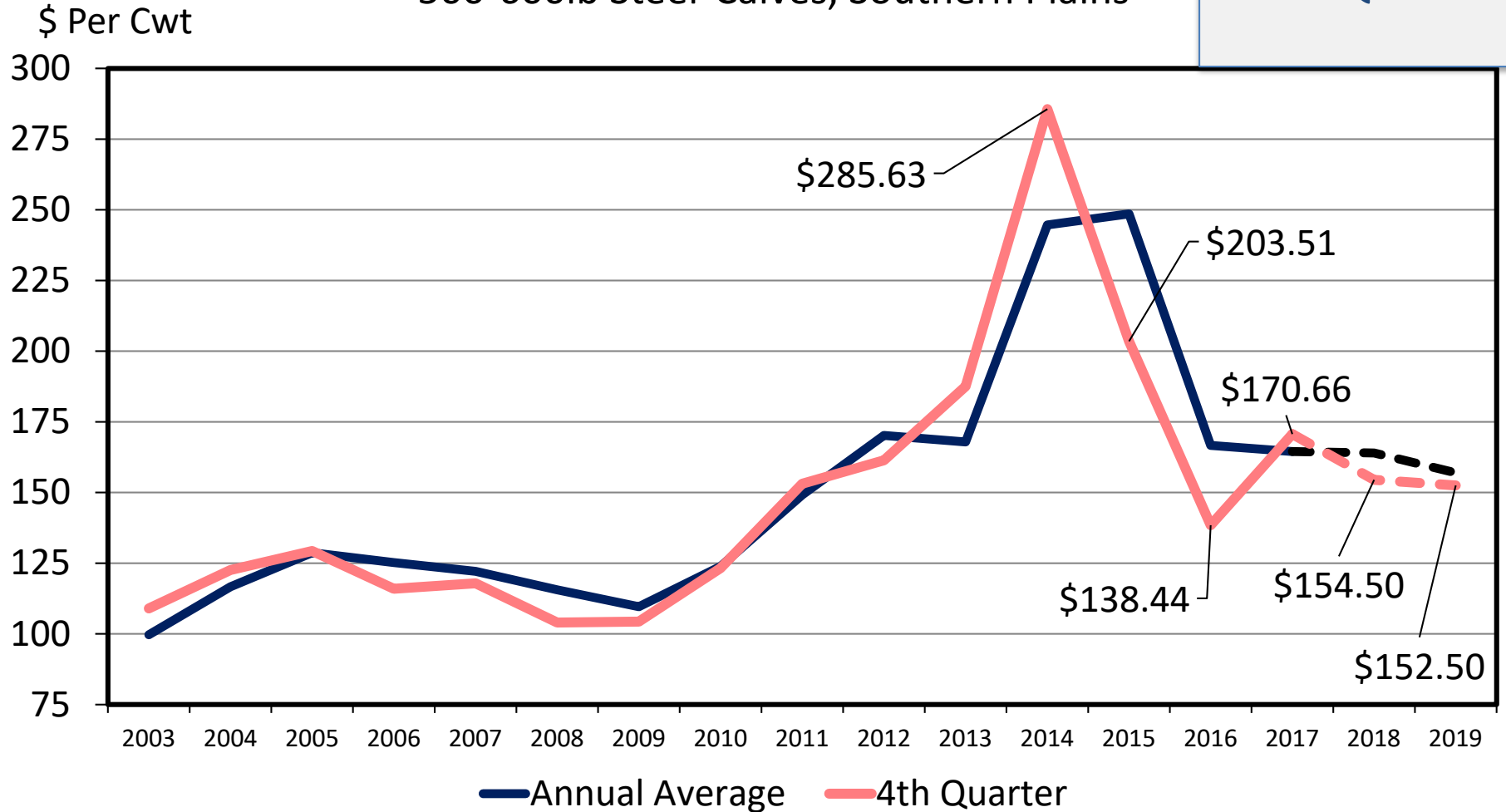
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C-P-54  
02/12/18

**LMIC Projections**  
**~\$25/cwt lower**  
**for Q4.2018**

# AVERAGE CALF PRICES

## 500-600lb Steer Calves, Southern Plains



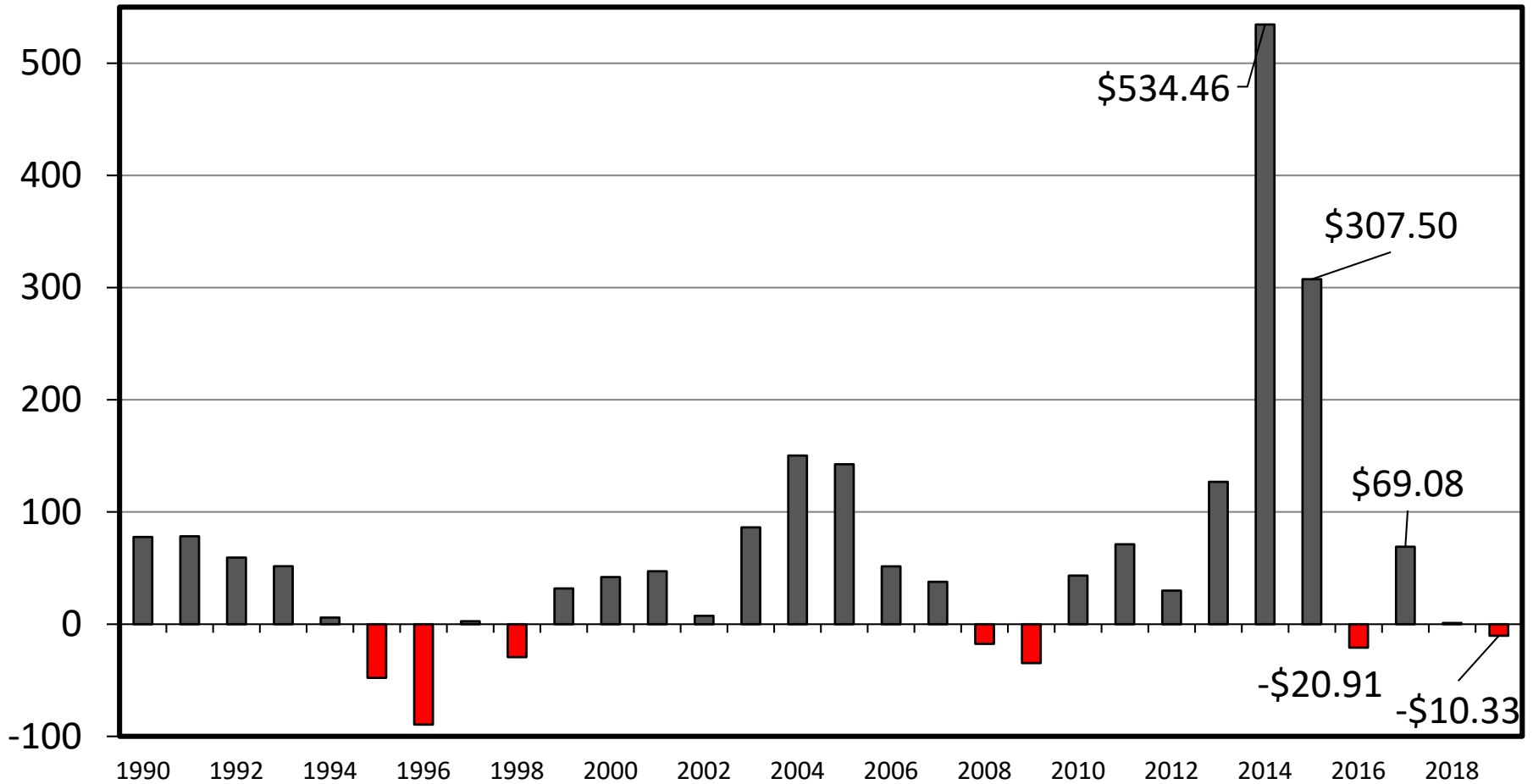
Data Source: USDA-AMS, Compiled and Forecasts by LMIC

Livestock Marketing Information Center

# ESTIMATED AVERAGE COW CALF RETURNS

Returns Over Cash Cost (Includes Pasture Rent), Annual

\$ Per Cow



Data Source: USDA & LMIC, Compiled by LMIC

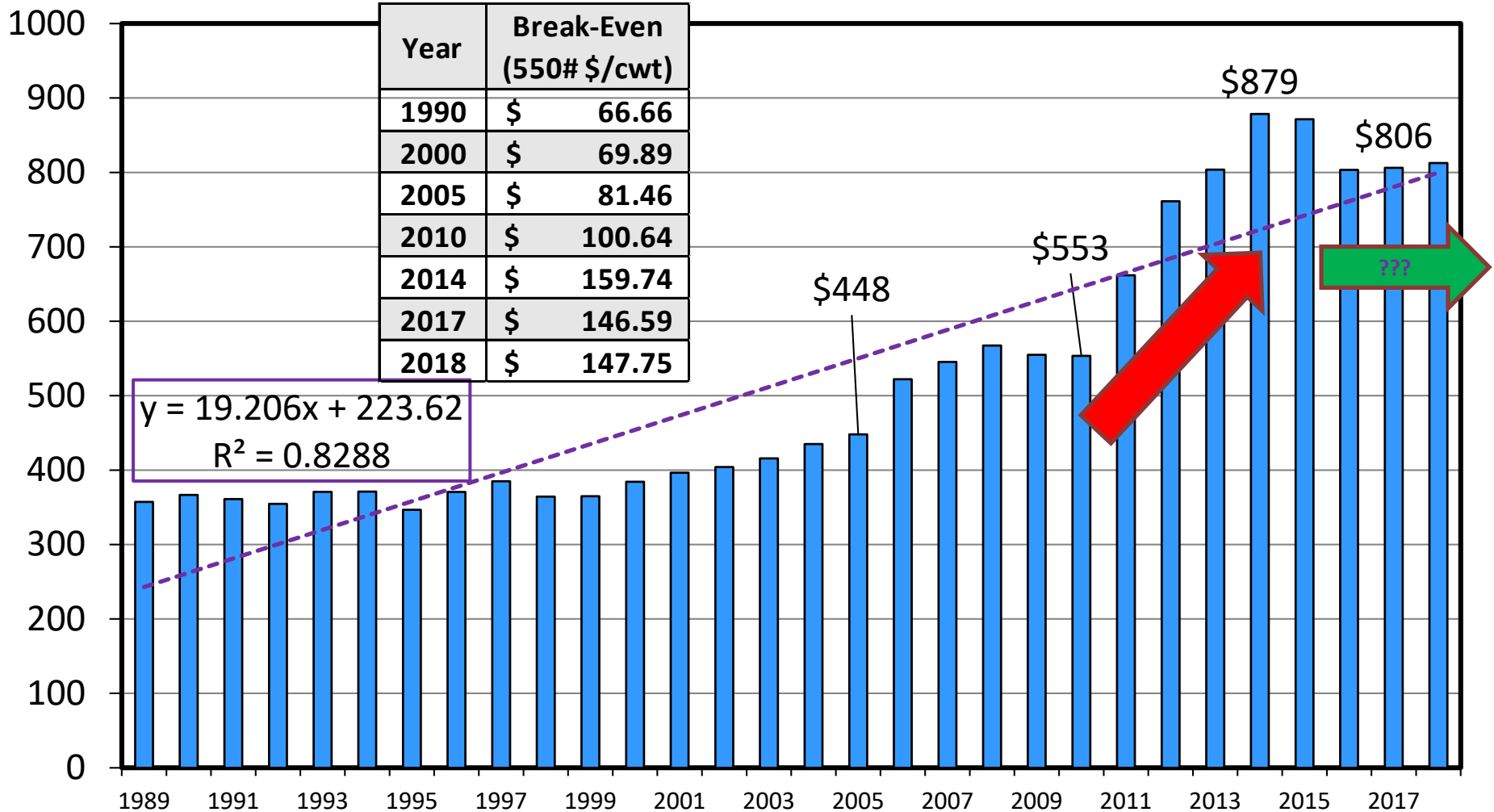
Livestock Marketing Information Center

C-P-66  
02/08/18

# ESTIMATED AVERAGE COW CALF COSTS

Total Cash Cost Plus Pasture Rent, Annual

\$ Per Cow



Data Source: USDA & LMIC, Compiled by LMIC

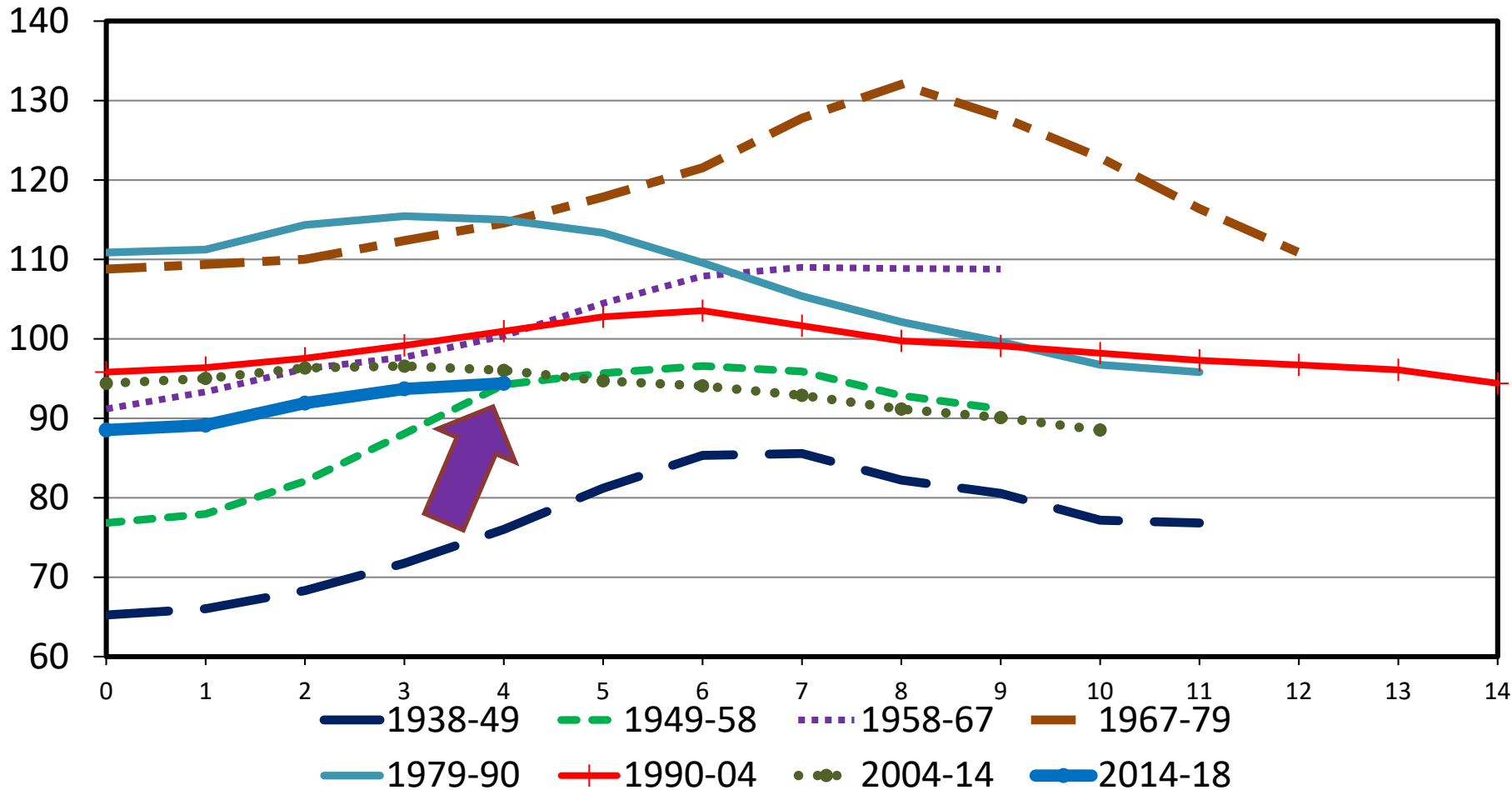
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# TOTAL CATTLE INVENTORY BY CYCLE

U.S., January 1

Mil. Head



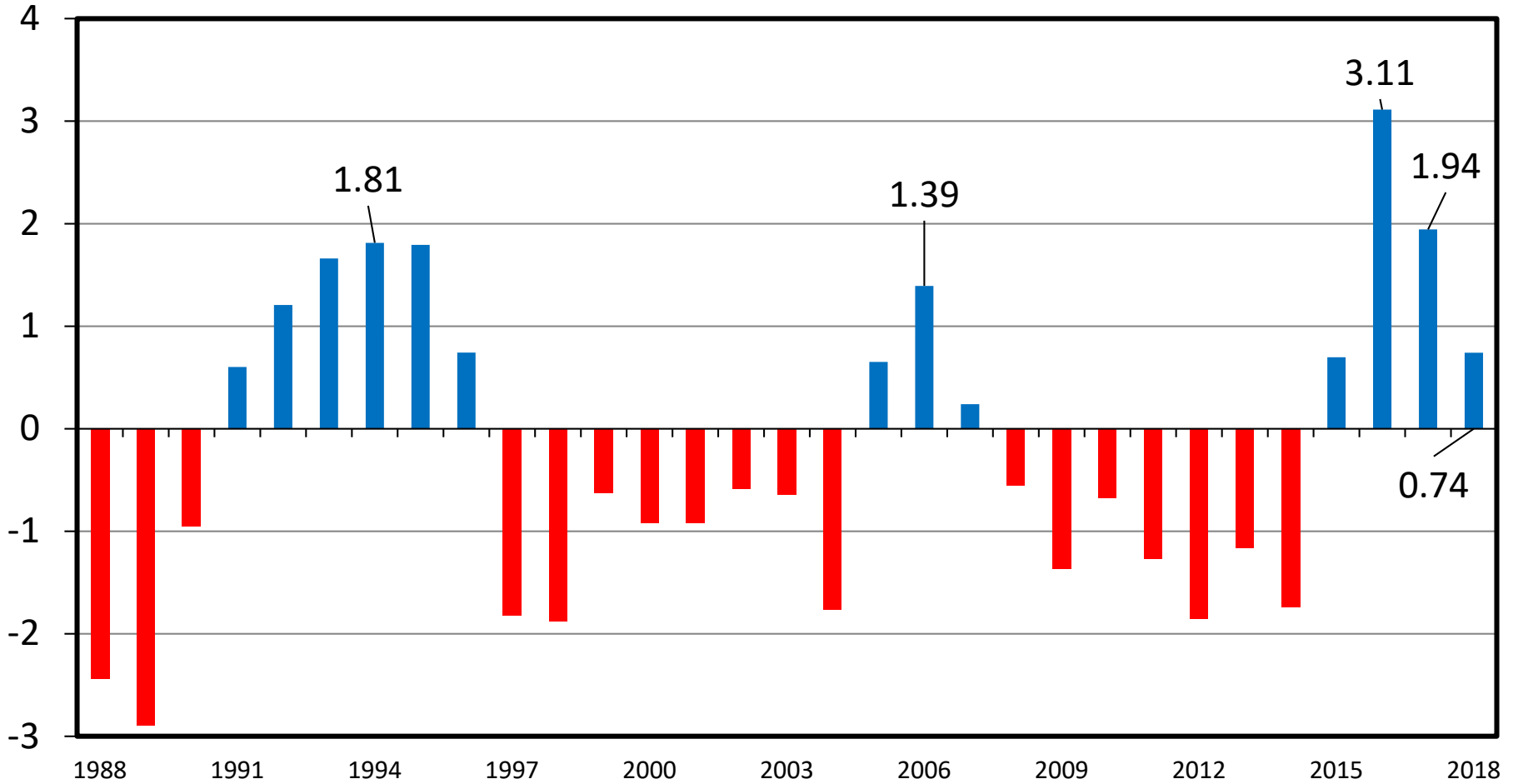
Data Source: USDA-NASS

Livestock Marketing Information Center

C-N-40  
02/16/18

# PERCENT CHANGE IN CATTLE INVENTORY

U.S., January 1



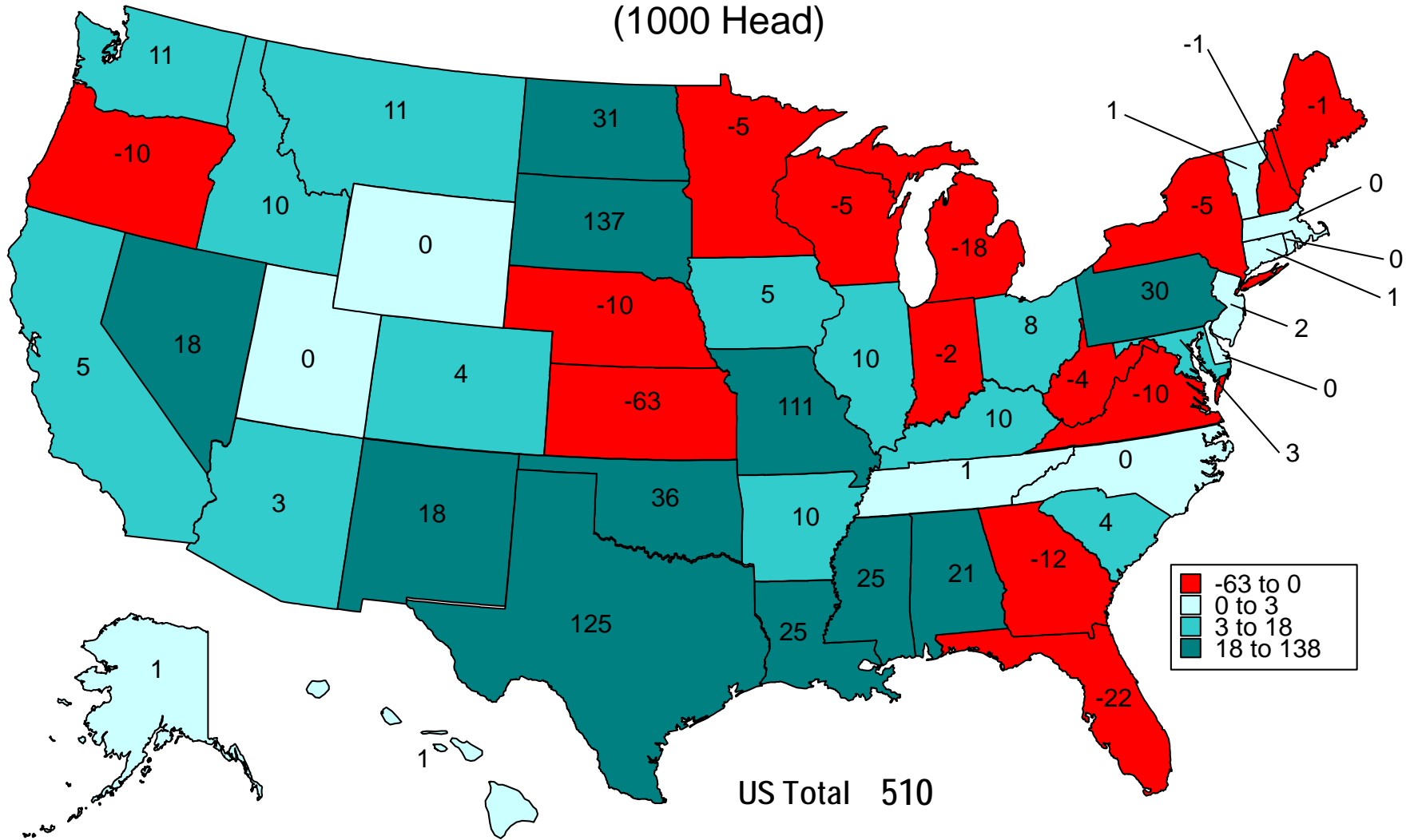
Data Source: USDA-NASS, Analysis by LMIC

Livestock Marketing Information Center

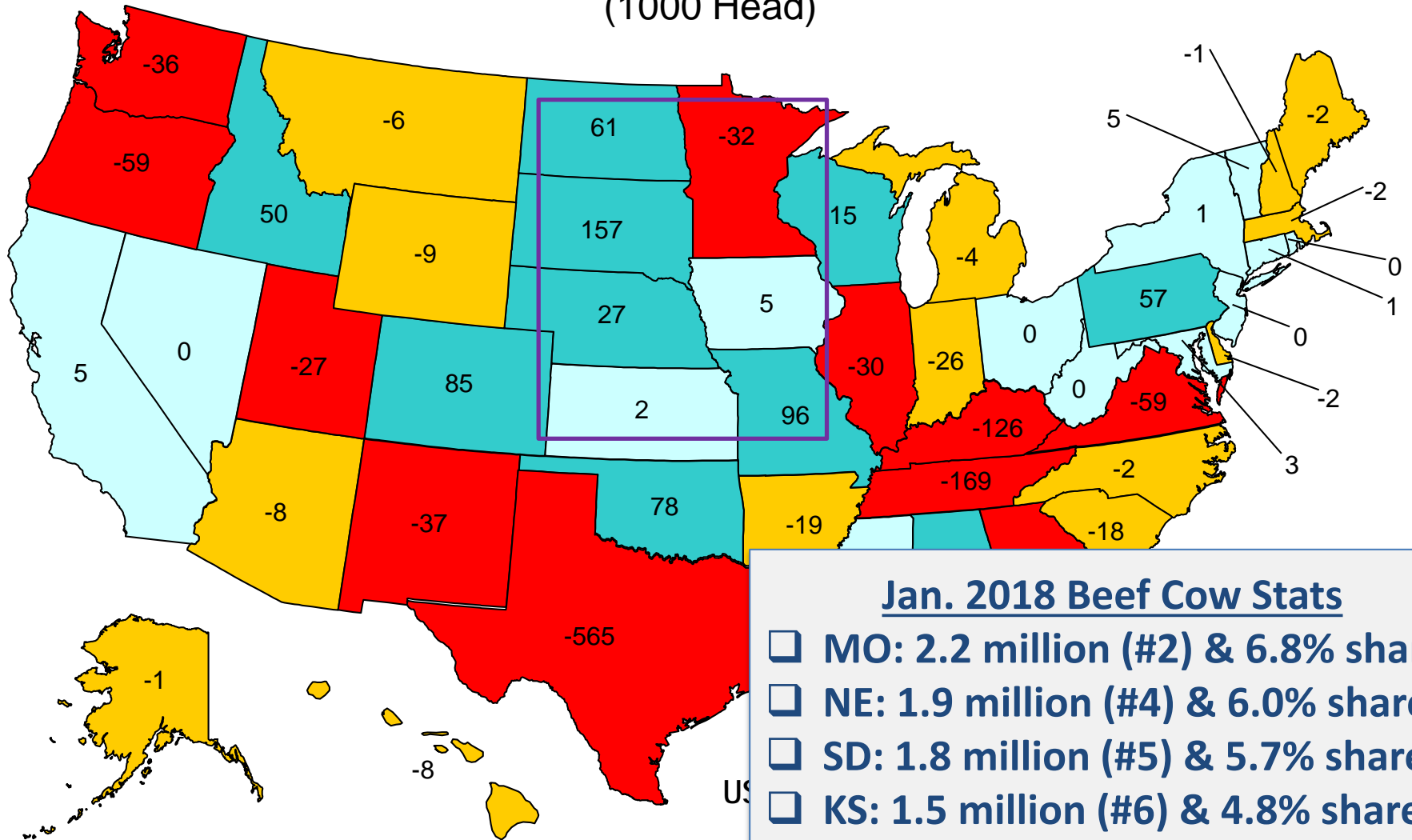
C-N-48  
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# CHANGE IN BEEF COWS NUMBERS 2017 TO 2018 (1000 Head)



# CHANGE IN BEEF COWS NUMBERS 2008 TO 2018 (1000 Head)



## Jan. 2018 Beef Cow Stats

- MO: 2.2 million (#2) & 6.8% share
- NE: 1.9 million (#4) & 6.0% share
- SD: 1.8 million (#5) & 5.7% share
- KS: 1.5 million (#6) & 4.8% share
- ND: 985k (#9) & 3.1% share
- IA: 970k (#10) & 3.1% share

# CHANGE IN BEEF COWS NUMBERS 2008 TO 2018

(1000 Head)

## Change Since 2008

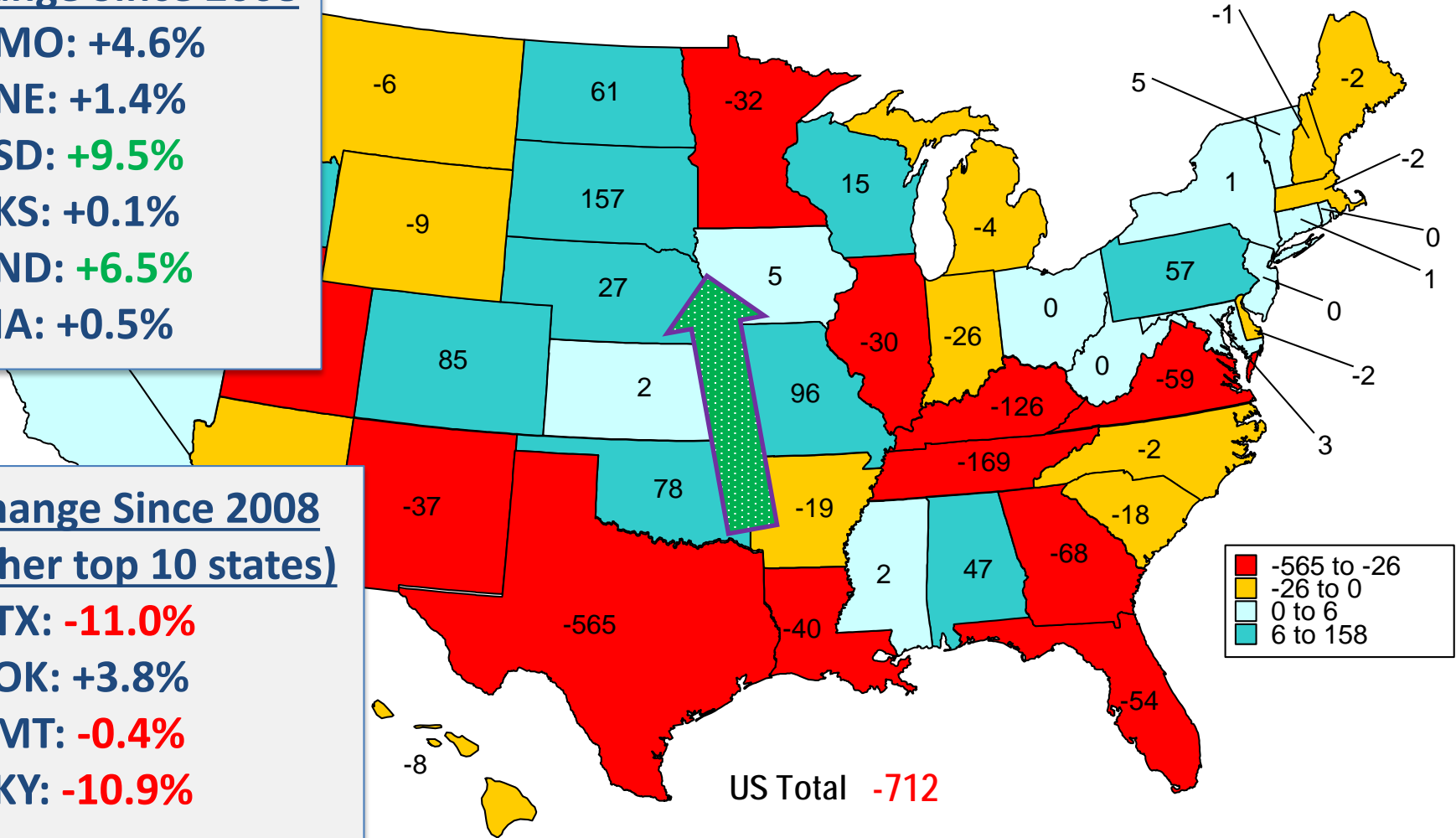
- MO: +4.6%
- NE: +1.4%
- SD: +9.5%
- KS: +0.1%
- ND: +6.5%
- IA: +0.5%

## Change Since 2008

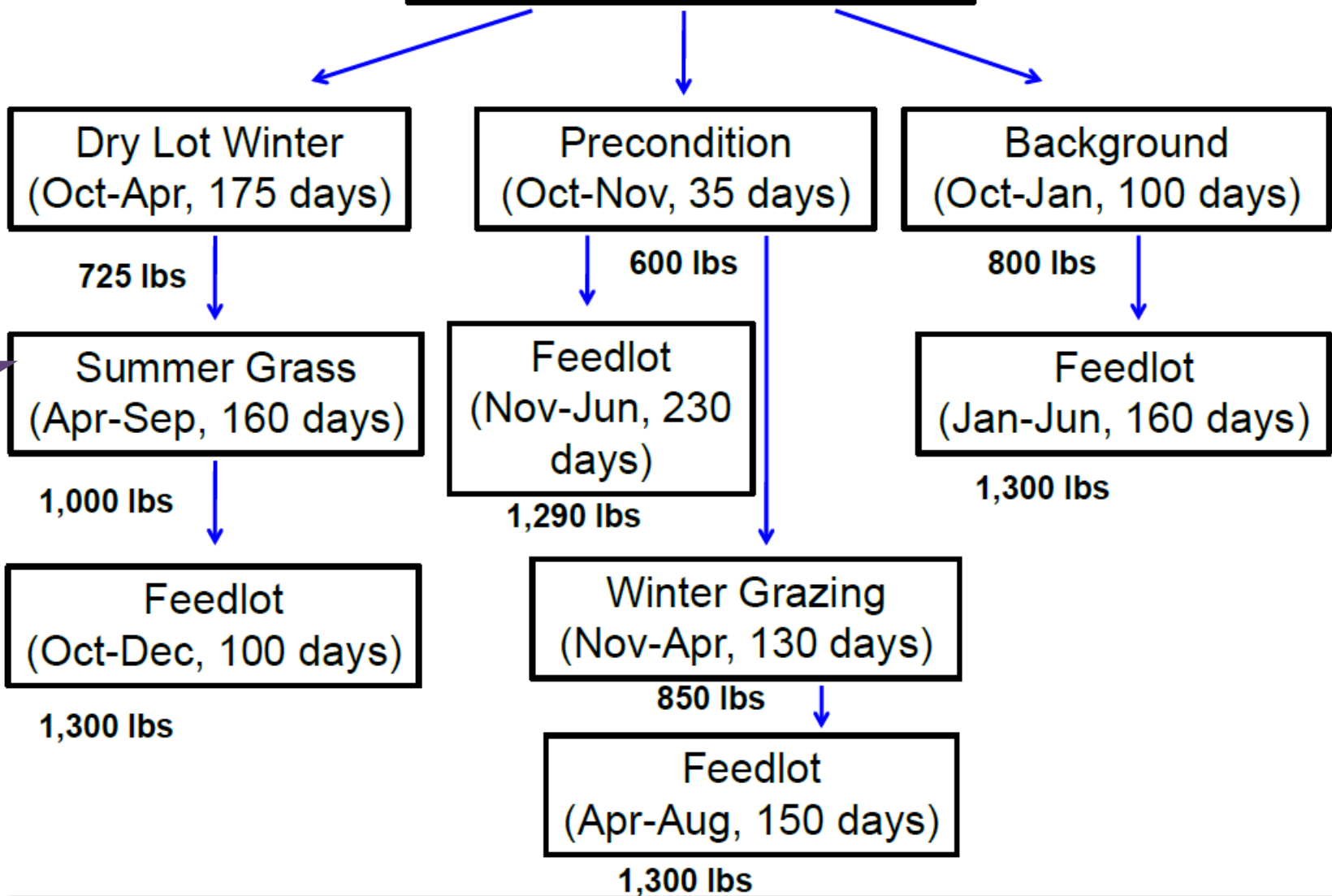
### (other top 10 states)

- TX: -11.0%
- OK: +3.8%
- MT: -0.4%
- KY: -10.9%

US: -2.2%



# Fall Weaned 550# Calf



# Economic Outlook Overview: Post Weaning *Forward-Looking Margin Perspective*

<http://www.beefbasis.com/VOG.aspx>

- Sioux Falls, SD *2/18/18* situation:

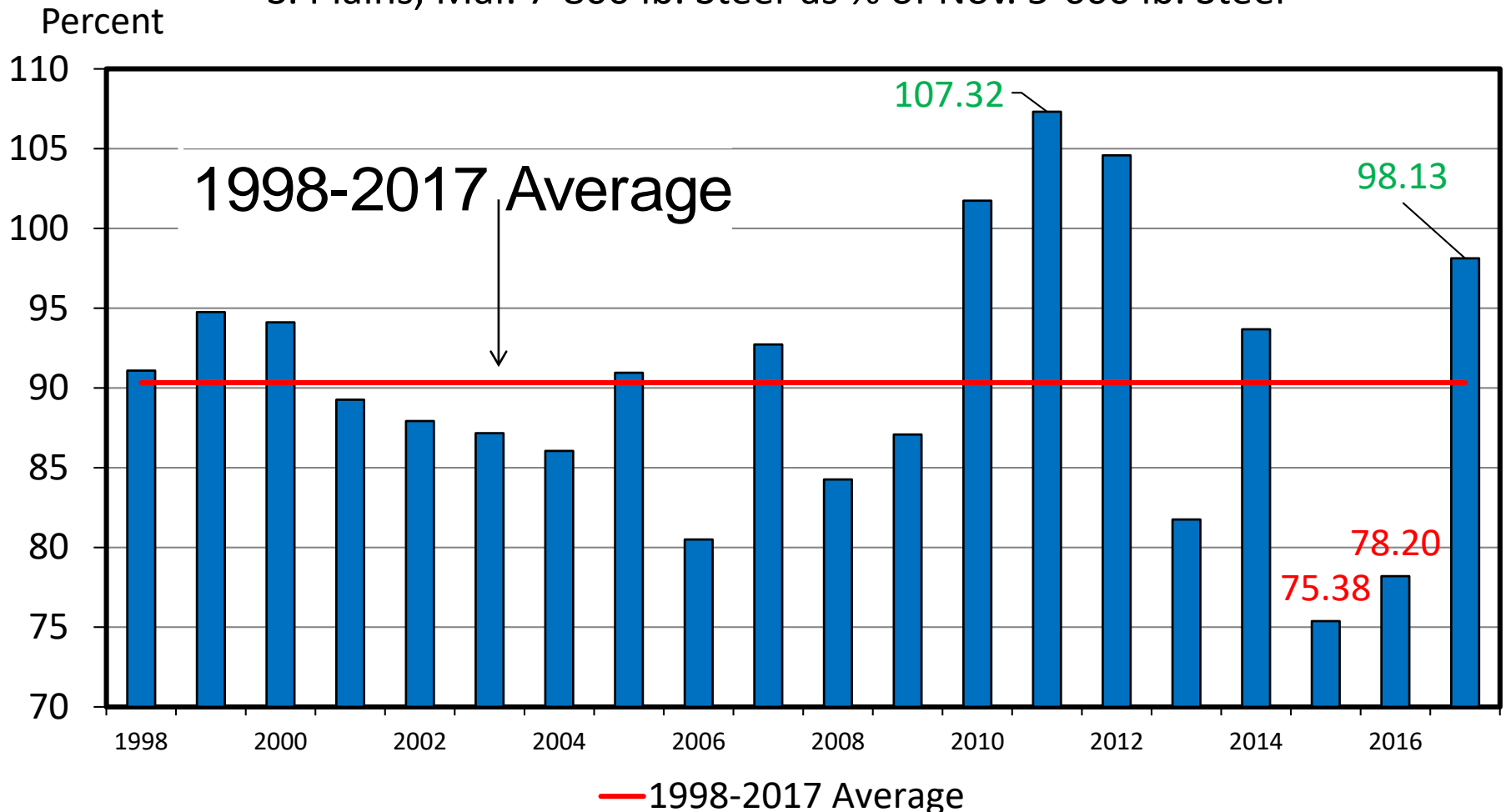
## SUMMER GRASS

- Buy 725 lb steer on 04/04/18 (\$166)
- Sell 1,000 lb steer on 9/05/18 (\$153) {1.8 ADG}
- VOG: \$116/cwt
  - *Drought Monitor will have a say in COG...*

# Historical Margin Perspective

## BUY/SELL MARGINS

S. Plains, Mar. 7-800 lb. Steer as % of Nov. 5-600 lb. Steer



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

Livestock Marketing Information Center

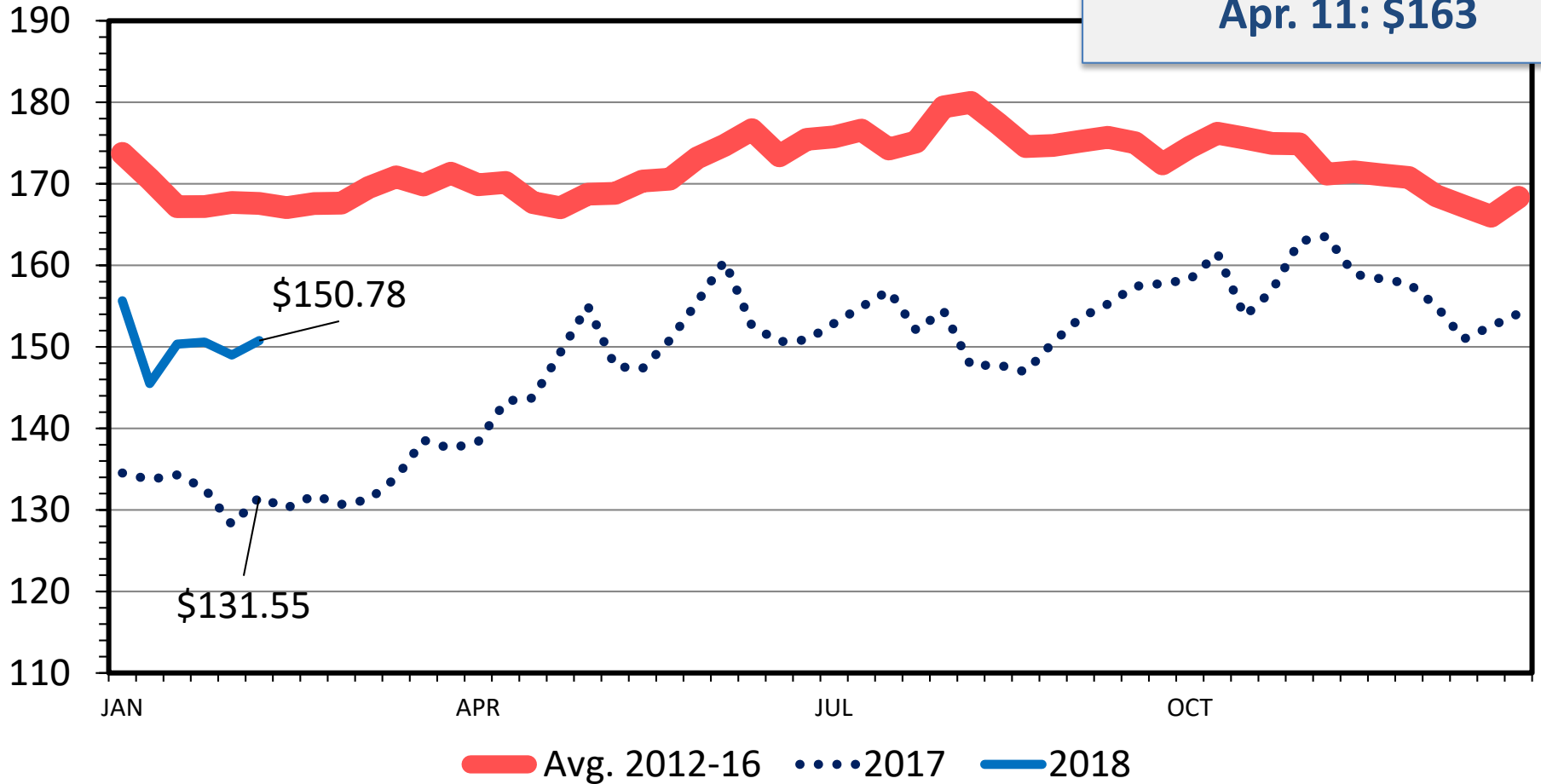
C-P-60  
08/13/17

**Beef Basis, Sioux Falls SD  
2018 Projections  
(as of 2/18/18):  
Mar. 14: \$160  
Apr. 11: \$163**

# MED. & LRG. #1 FEEDER STEER PRICES

700-800 Pounds, Southern Plains, Weekly

\$ Per Cwt.



# Economic Outlook Overview: Feedlots

- 2017 MUCH better than anticipated
- 2018 projections reflect higher placement costs



# Historical and Projected Kansas Feedlot Net Returns (as of 2/12/18')

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

**Dec. 17': -\$11/steer**

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

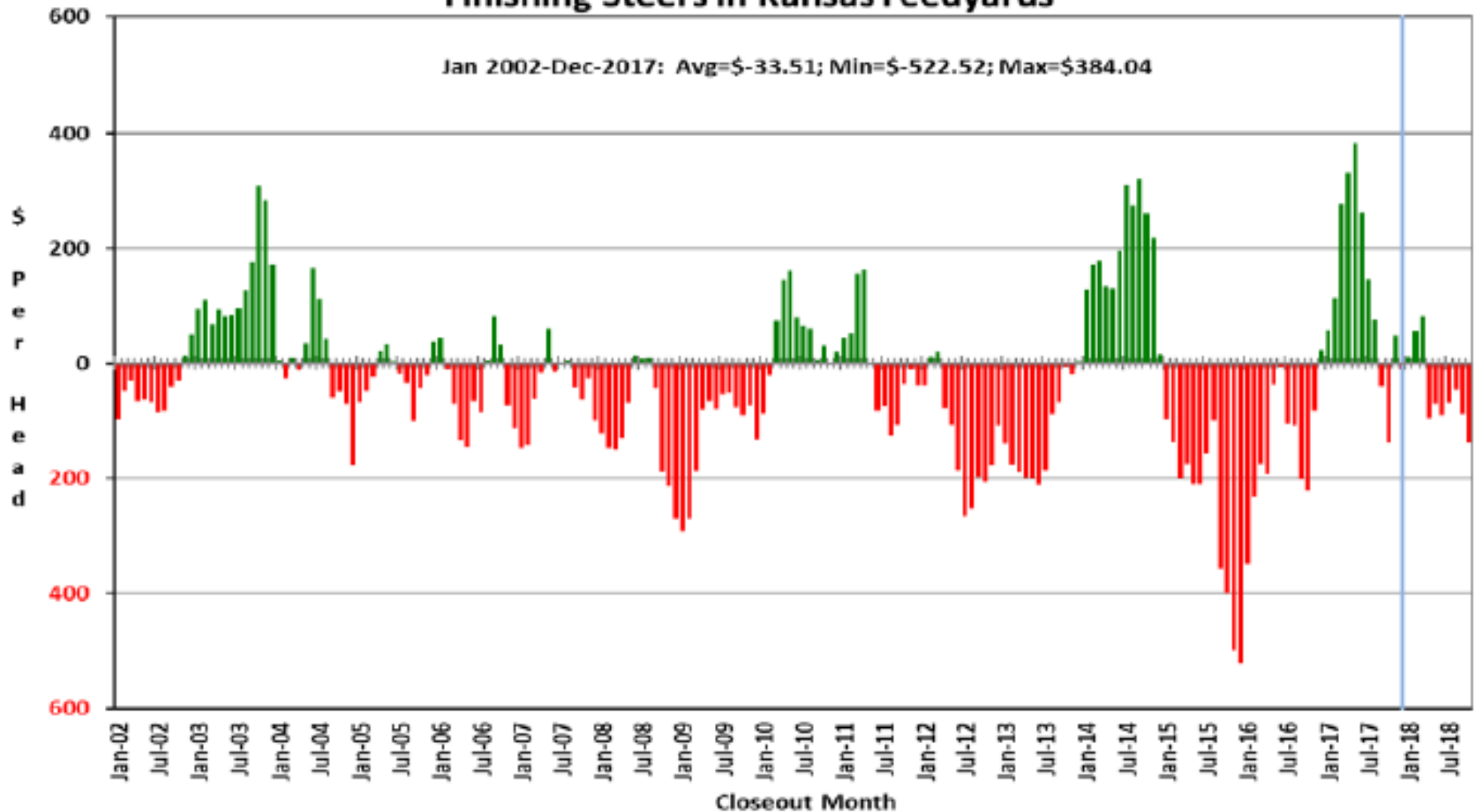
Closeout Mo-Yr	Net Return	FCOG**	Fed Price	Fed Futures	Fed Basis	Feeder Price	Breakeven FCOG**	Breakeven Fed Price	Breakeven Feeder Price
Jan-18	10.93	81.48	123.68	121.53	2.15	151.27	83.29	122.89	152.66
Feb-18	56.92	81.24	126.42	125.00	1.42	150.93	90.64	122.31	158.25
Mar-18	82.00	80.18	128.68	125.00	3.68	153.78	93.48	122.72	164.58
Apr-18	-94.84	81.67	119.45	116.73	2.72	158.28	65.41	126.58	145.57
May-18	-70.12	86.62	124.45	116.73	7.72	159.15	74.60	129.70	149.82
Jun-18	-90.78	85.18	117.08	113.80	3.28	150.40	69.27	123.98	138.19
Jul-18	-68.47	84.52	116.10	113.80	2.30	147.42	73.19	121.16	138.26
Aug-18	-45.08	83.67	116.78	115.48	1.31	148.45	76.54	120.10	142.27
Sep-18	-88.69	85.10	115.91	115.48	0.43	150.26	71.07	122.32	138.44
Oct-18	-137.33	85.94	118.23	117.53	0.70	153.88	61.67	128.08	137.30

**Representative Barometer for Trends in Profitability**

# Historical and Projected Kansas Feedlot Net Returns (as of 2/12/18')

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

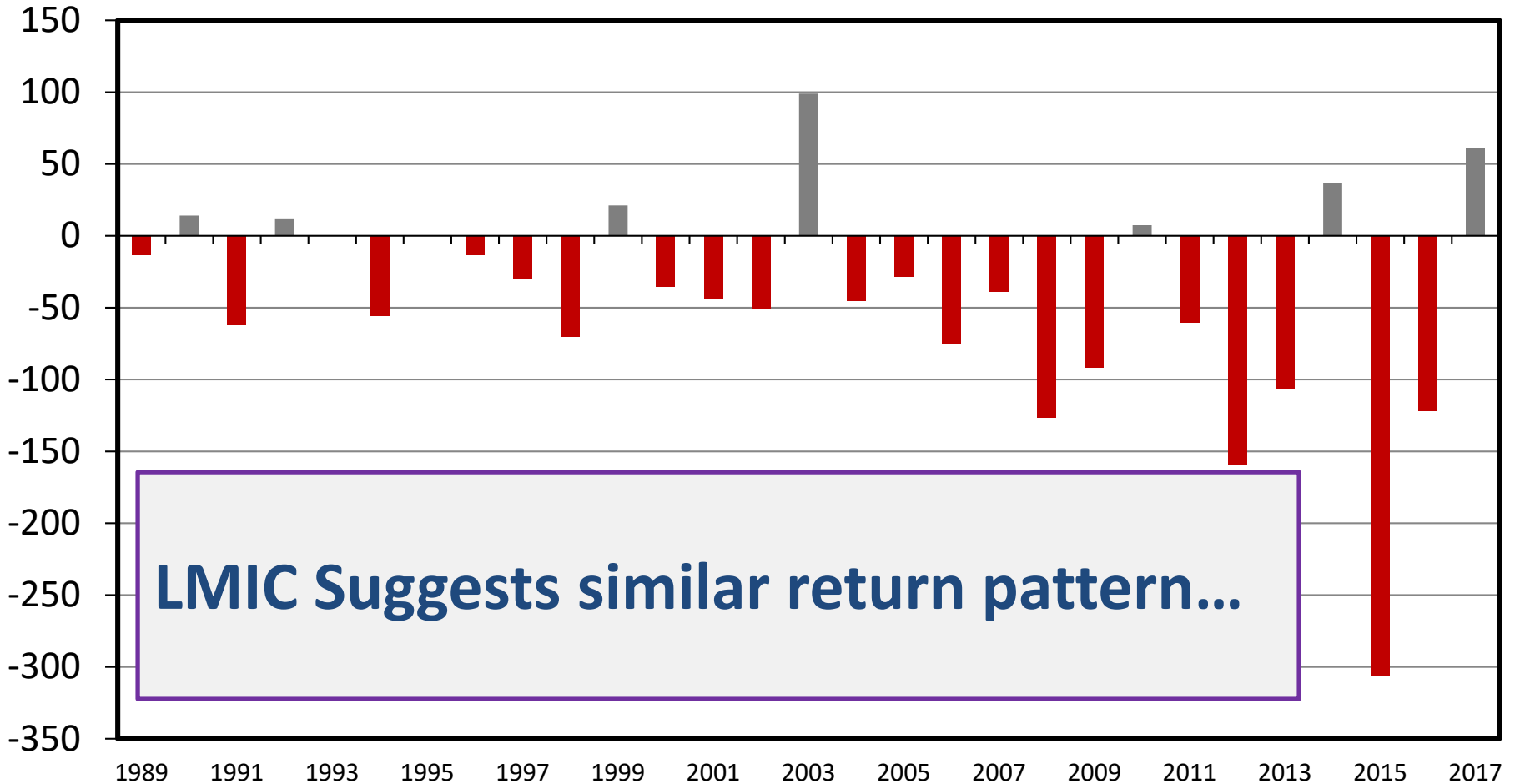
**Figure 1. Historical & Projected Average Net Returns for Finishing Steers in Kansas Feedyards**



# AVERAGE ANNUAL RETURNS TO CATTLE FEEDERS

Feeding 750 Lb. Steers, S. Plains, Custom Feeding Total Costs

\$ Per Head



**LMIC Suggests similar return pattern...**

# Quarterly Forecasts (LMIC: 2/8/18)

Year Quarter	Comm'l Slaughter	% Chg. from Year Ago	Average Dressed Weight	% Chg. from Year Ago	Comm'l Beef Production	% Chg. from Year Ago
<b>2017</b>						
I	7,711	7.3	817.0	-1.1	6,300	6.1
II	8,074	5.8	793.2	-2.2	6,404	3.5
III	8,249	5.2	815.9	-1.1	6,731	4.0
IV	8,141	2.8	827.7	-1.1	6,738	1.7
<b>Year</b>	<b>32,175</b>	<b>5.2</b>	<b>813.5</b>	<b>-1.4</b>	<b>26,173</b>	<b>3.8</b>
<b>2018</b>						
I	7,967	3.3	821.4	0.5	6,544	3.9
II	8,427	4.4	807.9	1.9	6,808	6.3
III	8,571	3.9	824.4	1.0	7,066	5.0
IV	8,366	2.8	835.1	0.9	6,987	3.7
<b>Year</b>	<b>33,331</b>	<b>3.6</b>	<b>822.2</b>	<b>1.1</b>	<b>27,405</b>	<b>4.7</b>
<b>2019</b>						
I	7,957	-0.1	826.7	0.6	6,578	0.5
II	8,515	1.0	813.6	0.7	6,928	1.8
III	8,798	2.6	830.5	0.7	7,307	3.4
IV	8,440	0.9	840.4	0.6	7,093	1.5
<b>Year</b>	<b>33,710</b>	<b>1.1</b>	<b>827.8</b>	<b>0.7</b>	<b>27,905</b>	<b>1.8</b>

## Quarterly Forecasts (LMIC: 2/8/18)

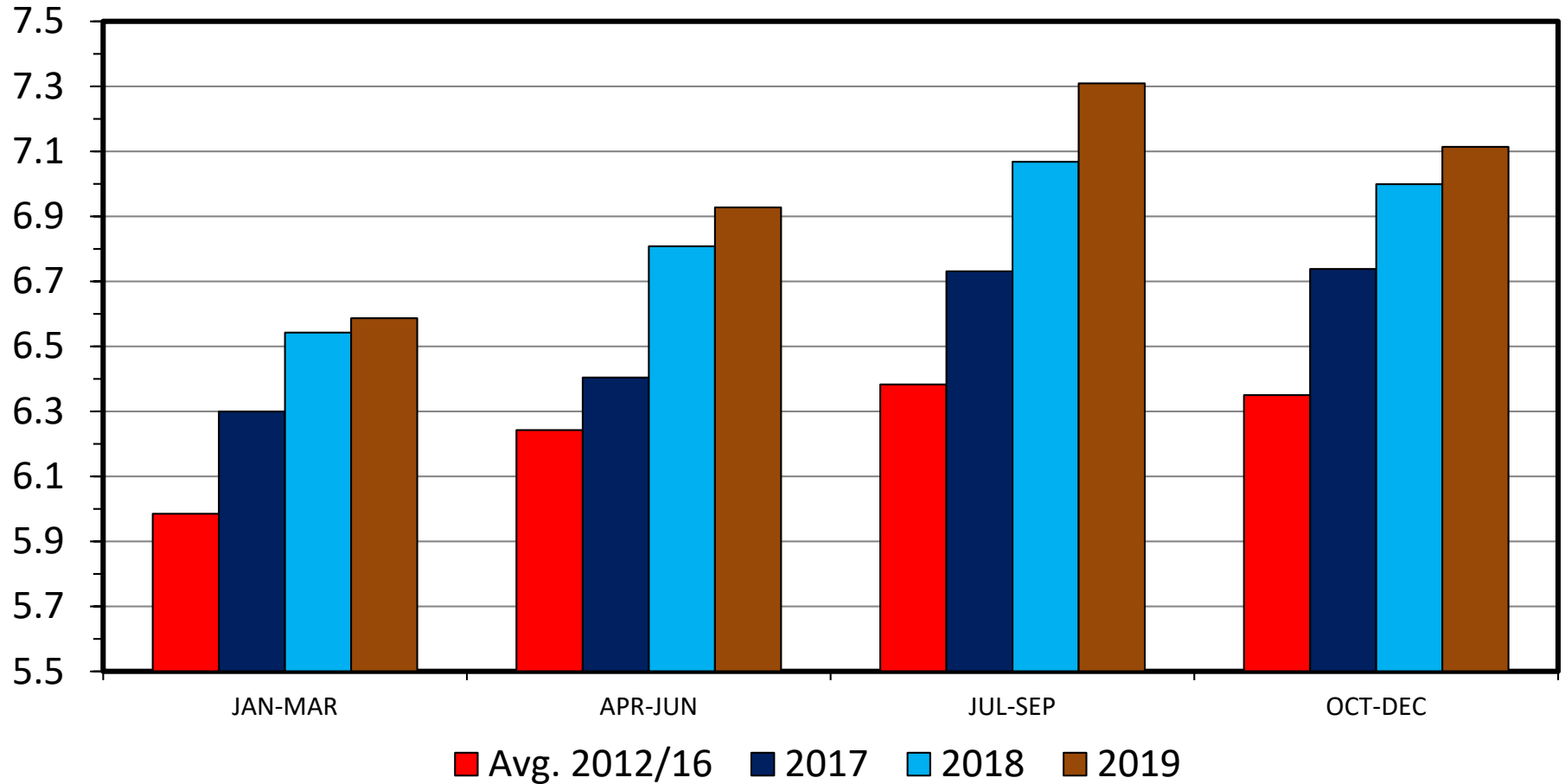
Year Quarter	Live Sltr. Steer Price	% Chg. from	Feeder Steer Price	
	5-Mkt Avg	Year Ago	7-800#	5-600#
<b>2017</b>				
I	122.96	-8.8	132.88	157.38
II	132.76	4.0	149.30	170.49
III	112	-0.6	153	165
IV	118	9.1	157	171
<b>Year</b>	<b>122</b>	<b>0.5</b>	<b>148</b>	<b>166</b>
<b>2018</b>				
I	120-122	-1.6	148-151	168-172
II	121-124	-7.7	145-149	166-171
III	107-111	-3.1	140-145	159-165
IV	111-116	-3.7	138-144	151-158
<b>Year</b>	<b>115-118</b>	<b>-4.1</b>	<b>143-147</b>	<b>161-167</b>
<b>2019</b>				
I	117-123	-0.8	138-145	154-162
II	117-124	-1.6	137-145	156-165
III	106-114	0.9	133-142	151-161
IV	107-116	-1.8	130-140	147-158
<b>Year</b>	<b>113-118</b>	<b>-0.9</b>	<b>136-142</b>	<b>153-161</b>

# Meat Supplies & Trade

# COMMERCIAL BEEF PRODUCTION

## US, Quarterly

Bil. Pounds



Data Source: USDA-NASS, Forecasts by LMIC

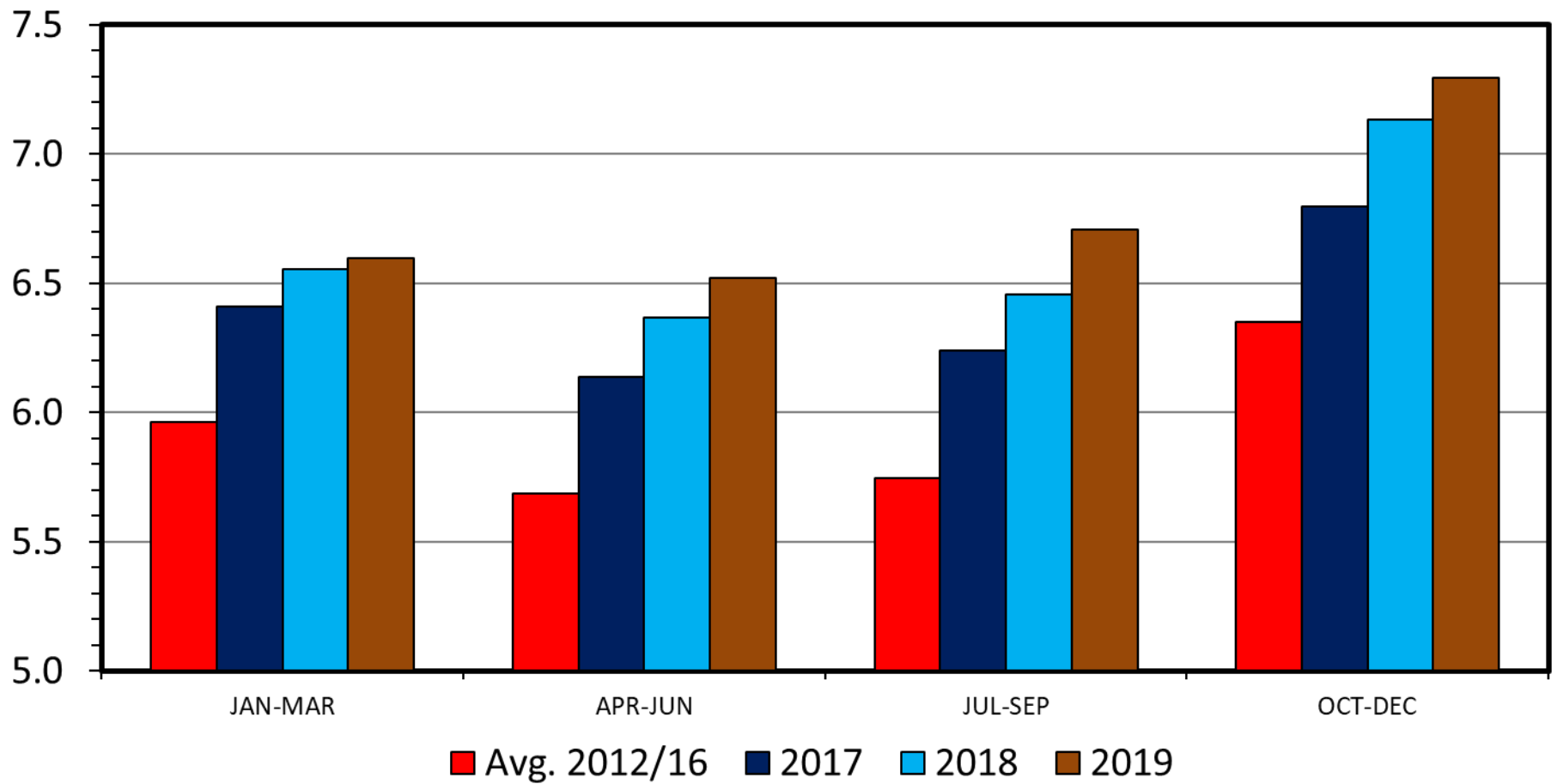
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M-S-01  
02/07/18

# COMMERCIAL PORK PRODUCTION

## US, Quarterly

Bil. Pounds

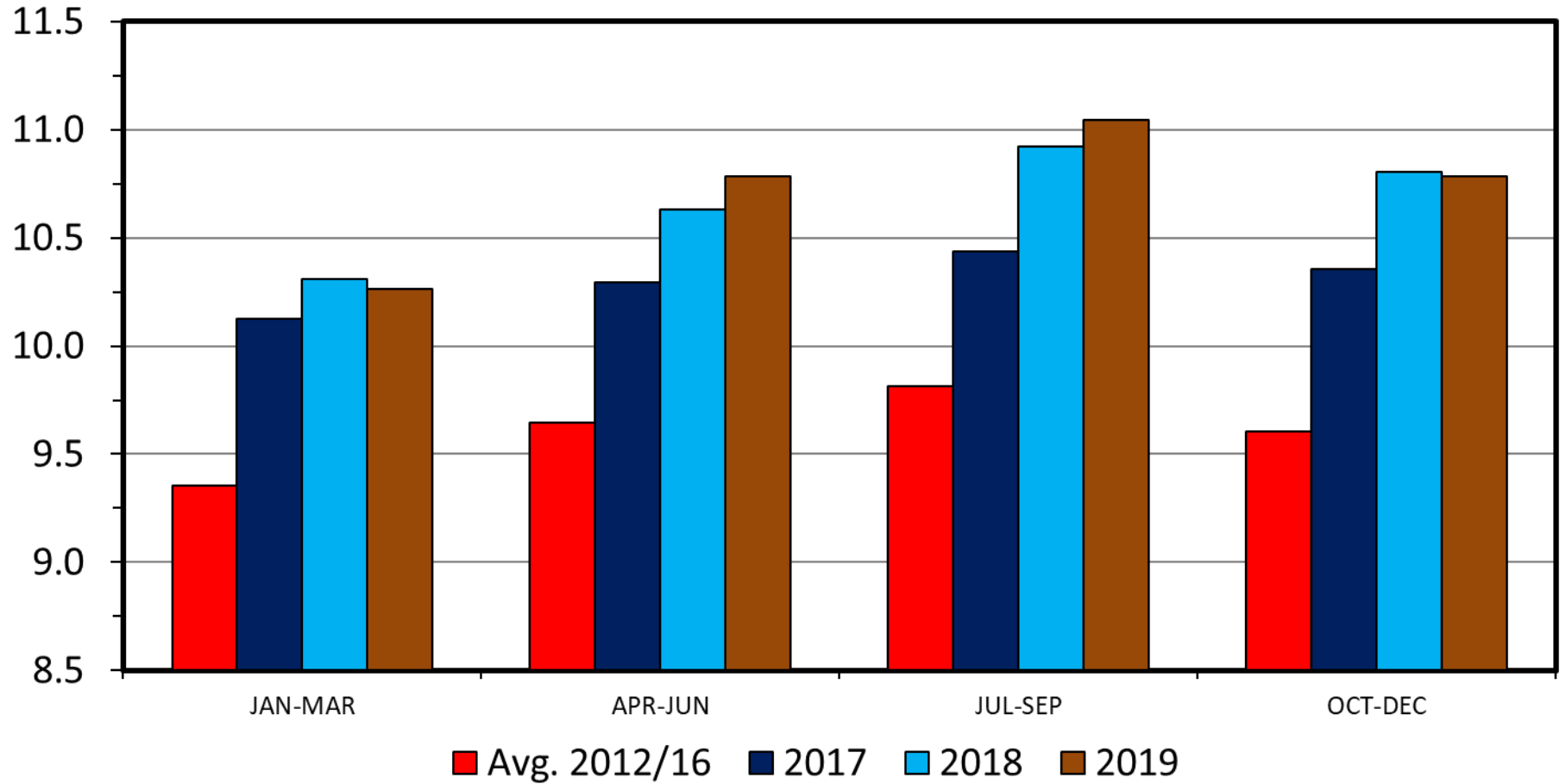




# RTC BROILER PRODUCTION

## US, Quarterly

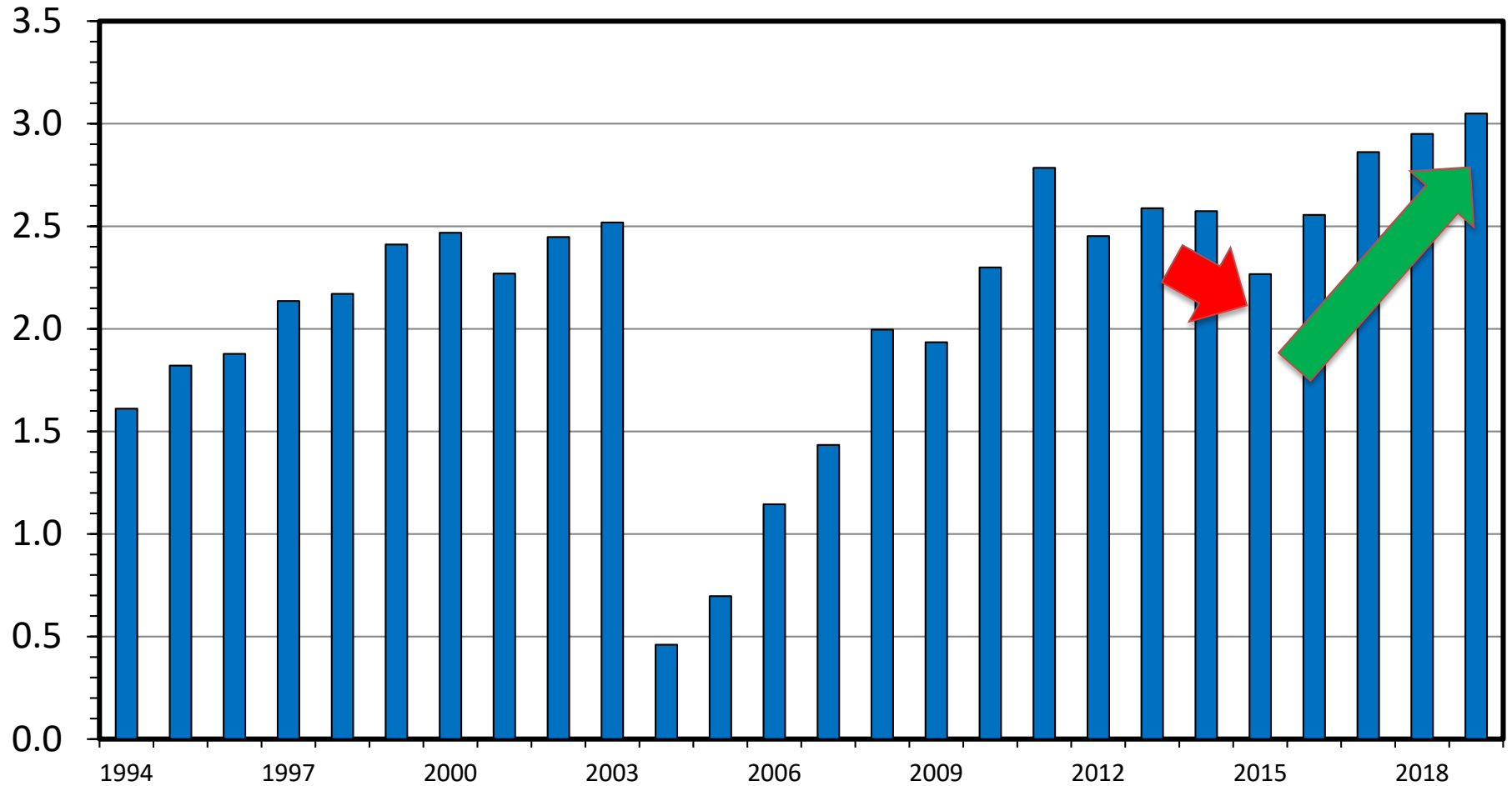
Bil. Pounds



# US BEEF AND VEAL EXPORTS

Carcass Weight, Annual

Bil. Pounds



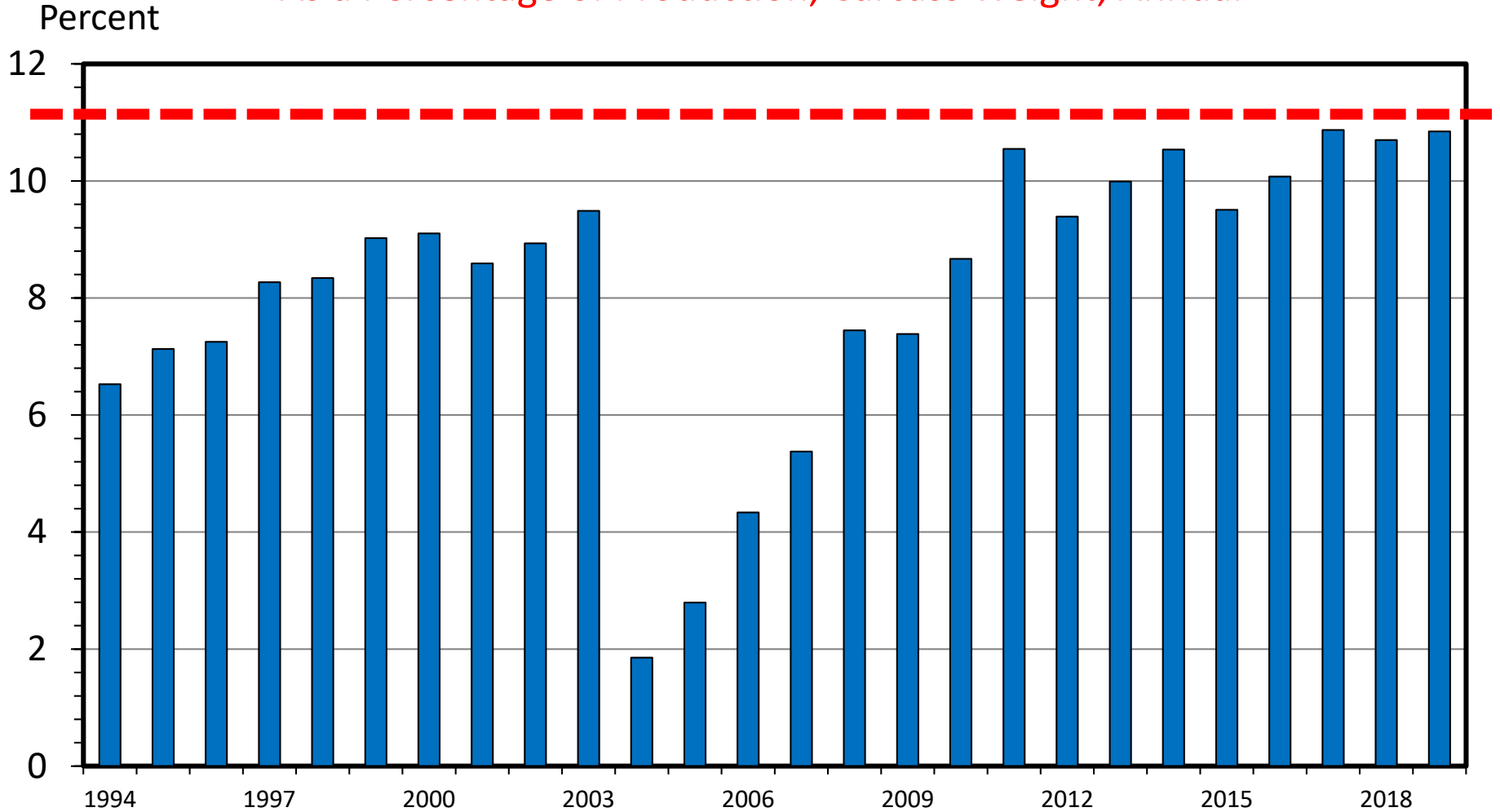
Data Source: USDA-ERS & USDA-FAS, Compiled and Forecasts by LMIC

Livestock Marketing Information Center

I-N-06  
02/07/18

# US BEEF AND VEAL EXPORTS

As a Percentage of Production, Carcass Weight, Annual



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

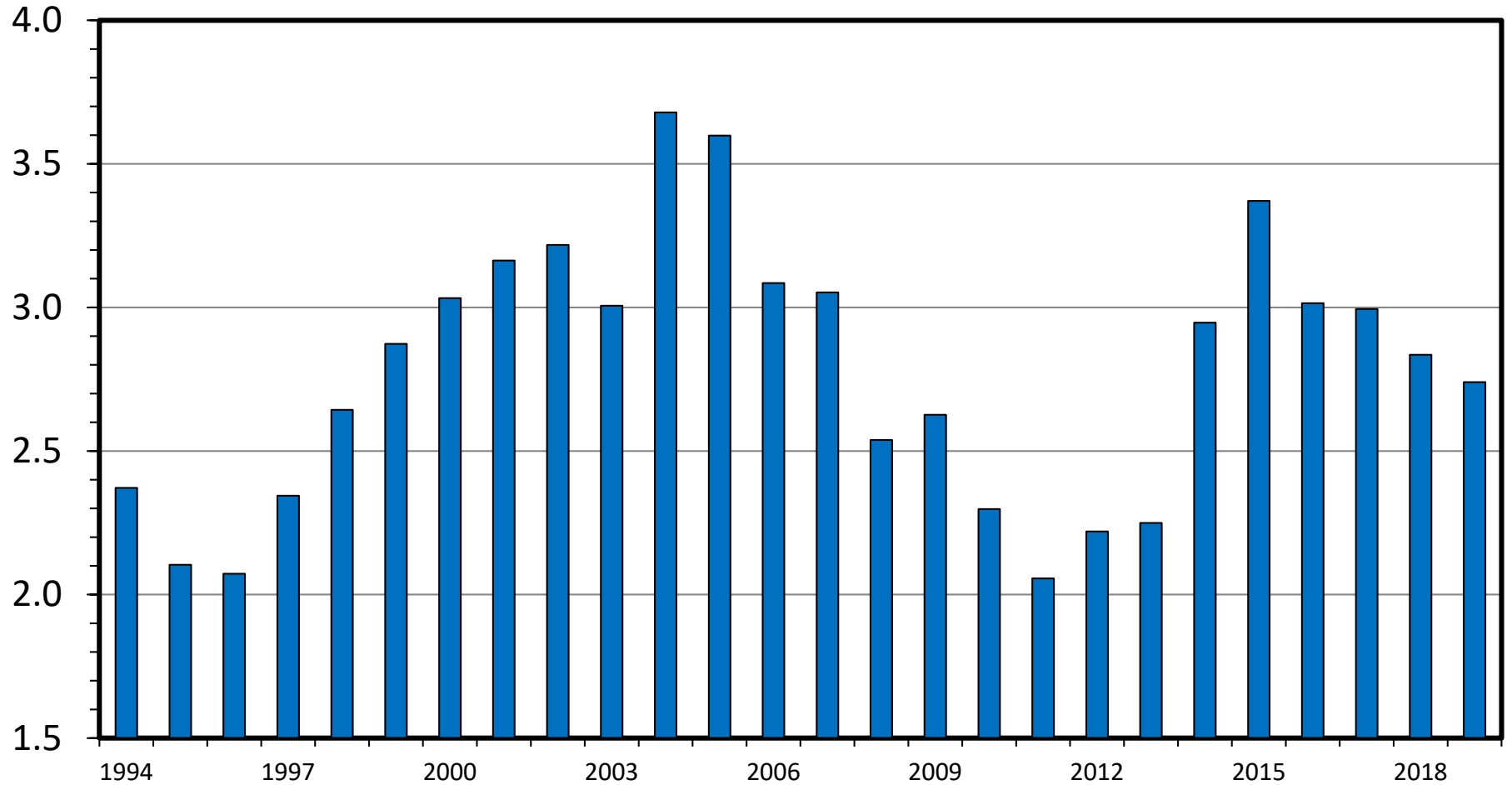
I-N-07  
02/07/18

Livestock Marketing Information Center

# US BEEF AND VEAL IMPORTS

Carcass Weight, Annual

Bil. Pounds



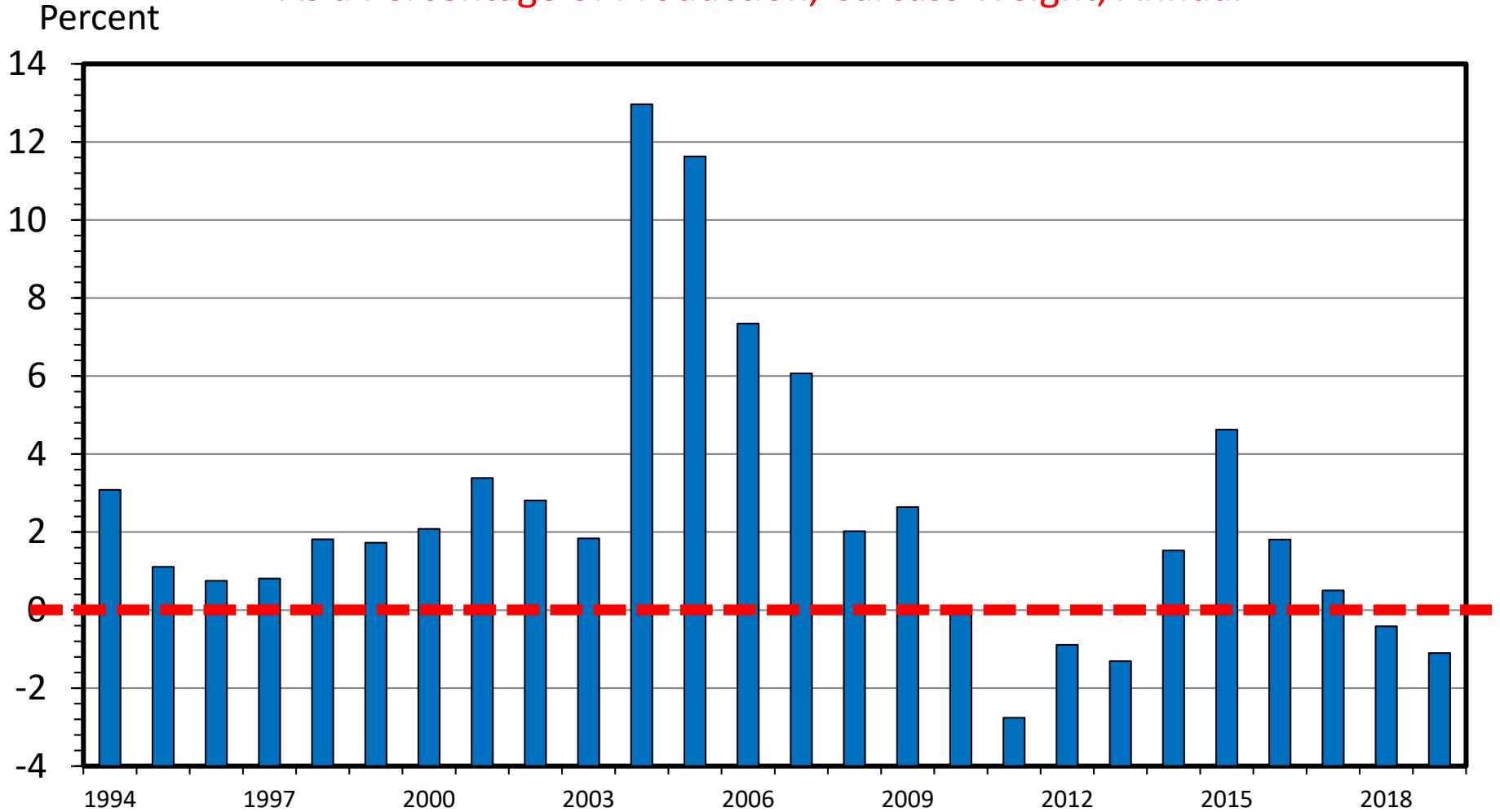
Data Source: USDA-ERS & USDA-FAS, Compiled and Forecasts by LMIC

Livestock Marketing Information Center

I-N-12  
02/07/18

# US BEEF AND VEAL NET IMPORTS

As a Percentage of Production, Carcass Weight, Annual



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

Livestock Marketing Information Center

I-N-11  
02/07/18

# USDA Long-Term projections

Feb. 2018 report (<http://www.usda.gov/oce/commodity/projections/>)

Per capita meat consumption, retail weight							
Item	2016	2017	2018	2019	2020	2027	
Beef	55.6	57.3	59.2	60.9	60.9	59.0	
Pork	50.1	50.4	52.1	52.2	51.9	52.0	
Total red meat	107.0	109.0	112.6	114.4	114.1	112.2	
Broilers	89.8	91.0	91.8	91.6	92.4	92.2	
Total poultry	107.6	108.8	109.6	109.2	109.9	109.3	
Red meat & poultry	214.6	217.8	222.2	223.6	224.0	221.5	
Note: Totals may not add due to rounding.							

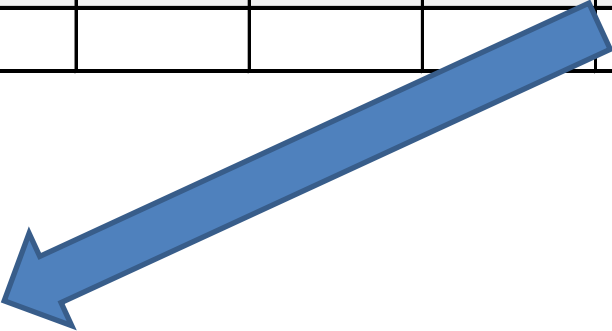
# USDA Long-Term projections

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2019 would be highest for beef since 2009

Per capita meat consumption, retail weight							
Item	2016	2017	2018	2019	2020	2027	
Beef	55.6	57.3	59.2	60.9	60.9	59.0	
Pork	50.1	50.4	52.1	52.2	51.9	52.0	
Total red meat	107.0	109.0	112.6	114.4	114.1	112.2	
Broilers	89.8	91.0	91.8	91.6	92.4	92.2	
Total poultry	107.6	108.8	109.6	109.2	109.9	109.3	
Red meat & poultry	214.6	217.8	222.2	223.6	224.0	221.5	

Note: Totals may not add due to rounding.



Year	Total Red Meat & Poultry
1995	205.4
2000	214.4
2005	219.7
2010	207.5
2014	200.1

# USDA Long-Term projections

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Per capita meat consumption, retail weight							
Item	2016	2017	2018	2019	2020	2027	
Beef	55.6	57.3	59.2	60.9	60.9	59.0	
Pork	50.1	50.4	52.1	52.2	51.9	52.0	
Total red meat	107.0	109.0	112.6	114.4	114.1	112.2	
Broilers	89.8	91.0	91.8	91.6	92.4	92.2	
Total poultry	107.6	108.8	109.6	109.2	109.9	109.3	
Red meat & poultry	214.6	217.8	222.2	223.6	224.0	221.5	
Note: Totals may not add due to rounding.							

Projections INCLUDE trade dependency...



# USDA Long-Term projections

Feb. 2018 report (<http://www.usda.gov/oce/commodity/projections/>)

## Beef long-term projections

Item	Units	2016	2017	2018	2019	2020	2027
Commercial production	Mil. lbs.	25,221	26,400	27,620	28,312	28,644	29,097
Change from previous year	Percent		4.7%	4.6%	2.5%	1.2%	0.6%
Imports	Mil. lbs.	3,015	2,966	3,030	2,920	2,954	3,090
Total supply	Mil. lbs.	28,986	30,190	31,417	32,014	32,225	32,814
			4.2%	4.1%	1.9%	0.7%	0.5%
Exports	Mil. lbs.	2,556	2,855	2,970	2,752	2,734	2,976
			11.7%	4.0%	-7.3%	-0.7%	0.2%
Total consumption	Mil. lbs.	25,673	26,635	27,732	28,702	28,931	29,278
Per capita, retail weight	Pounds	55.6	57.3	59.2	60.9	60.9	59.0
Change from previous year	Percent		3.1%	3.3%	2.9%	0.0%	0.0%

# Choice Beef Retail Demand Index

(Quarterly, Price-Index Approach, 1990=100)

**Q1.2017: -3.1%**  
**vs. Q1.2016**

**Q2.2017: -0.3%**  
**vs. Q2.2016**

**Q3.2017: +0.8%**  
**vs. Q3.2016**

**Q4.2017: +1.6%**  
**vs. Q4.2016**

# Assessing Beef Demand Determinants (Jan. 18, 2018)

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Glynn T. Tonsor, Jayson L. Lusk, and Ted C. Schroeder

Cattlemen's Beef Board



[https://www.beefboard.org/news/files/FY2018/  
Assessing%20Beef%20Demand%20Determinants FullReport.pdf](https://www.beefboard.org/news/files/FY2018/Assessing%20Beef%20Demand%20Determinants%20FullReport.pdf)

# Beyond Outlook...

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- Frequency of Profit Hedging**
- Lessons from KS**
- 5-Mkt Comparison Lessons**

# How Often Can you Hedge a Profit?

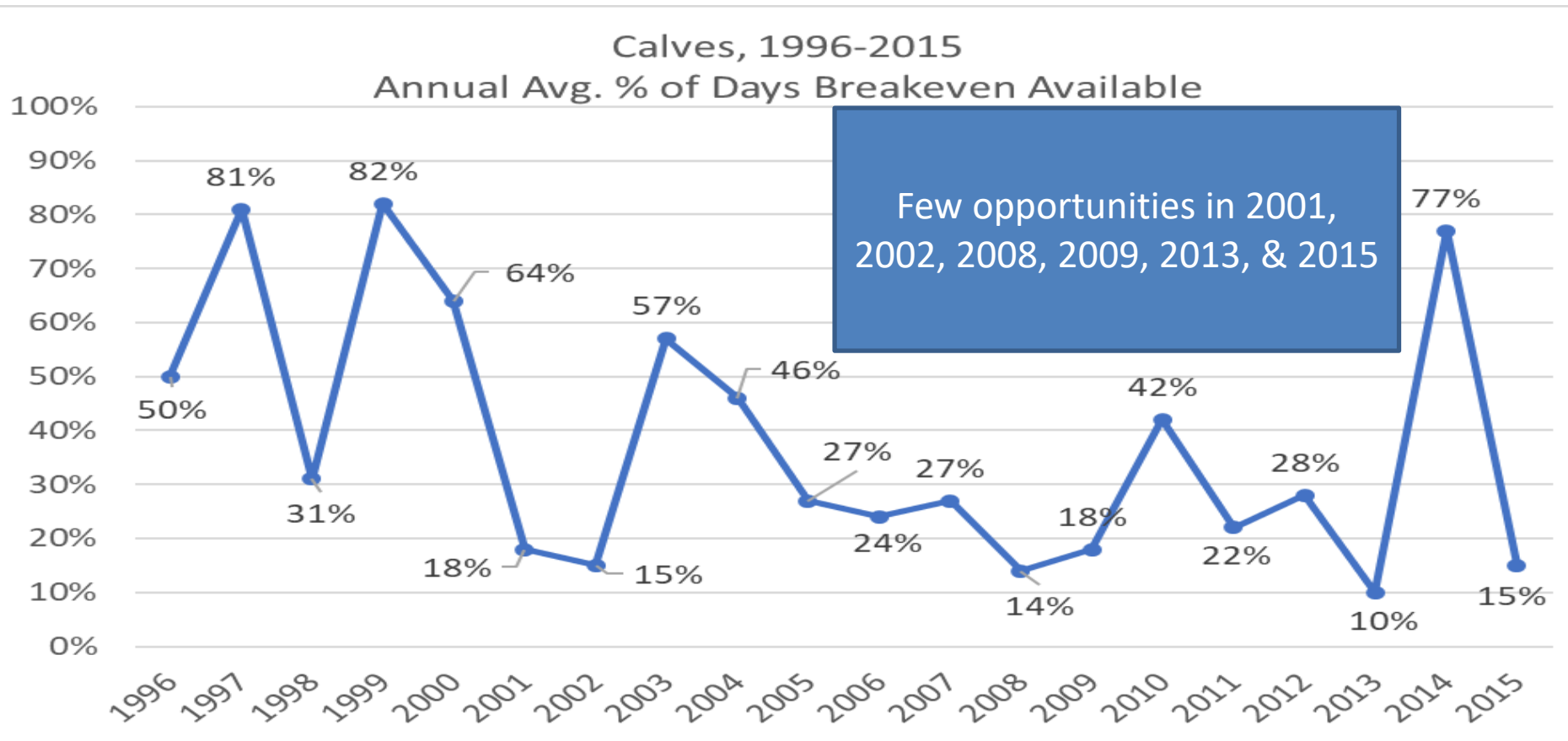
- Lee Schulz (Iowa St.) April 2016  
<https://www.extension.iastate.edu/agdm/livestock/pdf/b2-54.pdf>
  - Examined 1996-2015, ISU Estimated Return Series
- Percent of trading days during feeding period that breakeven (or better) could be hedged:
  - Calf-Feeding, 210 DOF
    - 37% of days offered a breakeven + hedge
    - APR/MAY closeouts best (63%)
    - OCT closeouts worst (16%)
  - Yearling-Feeding, 180 DOF
    - 40% of days offered a breakeven + hedge
    - APR closeouts best (64%)
    - AUG closeouts worst (22%)

# How Often Can you Hedge a Profit?

- Lee Schulz (Iowa St.) April 2016

<https://www.extension.iastate.edu/agdm/livestock/pdf/b2-54.pdf>

– Examined 1996-2015, ISU Estimated Return Series



# What Can We Learn from KS?

- Monthly barometer of KS feeding trends:

<https://www.agmanager.info/livestock-meat/cattle-finishing-historical-and-projected-returns>

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

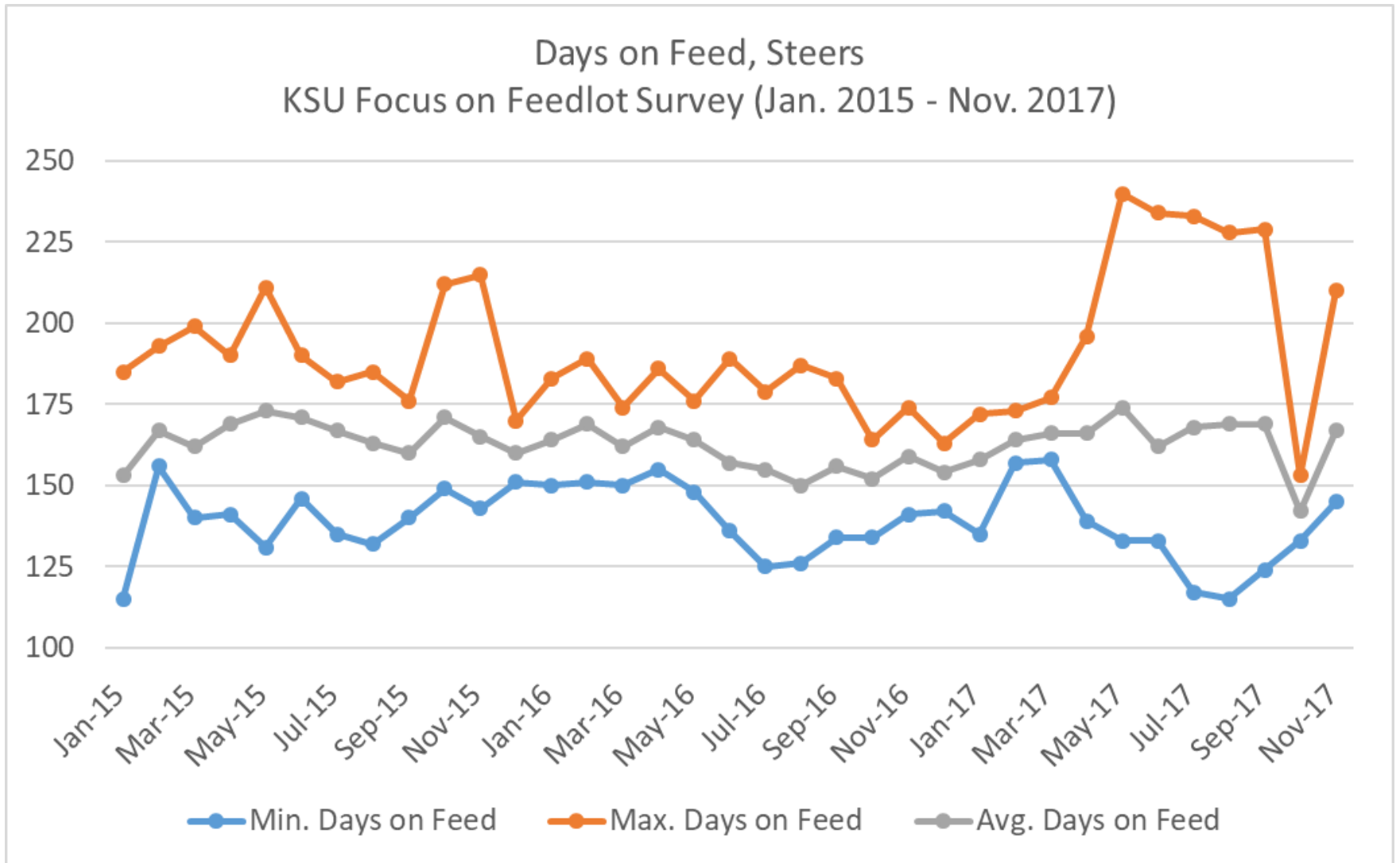
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Jul-18	-68.47	84.52	116.10	113.80	2.30	147.42	73.19	121.16	138.26
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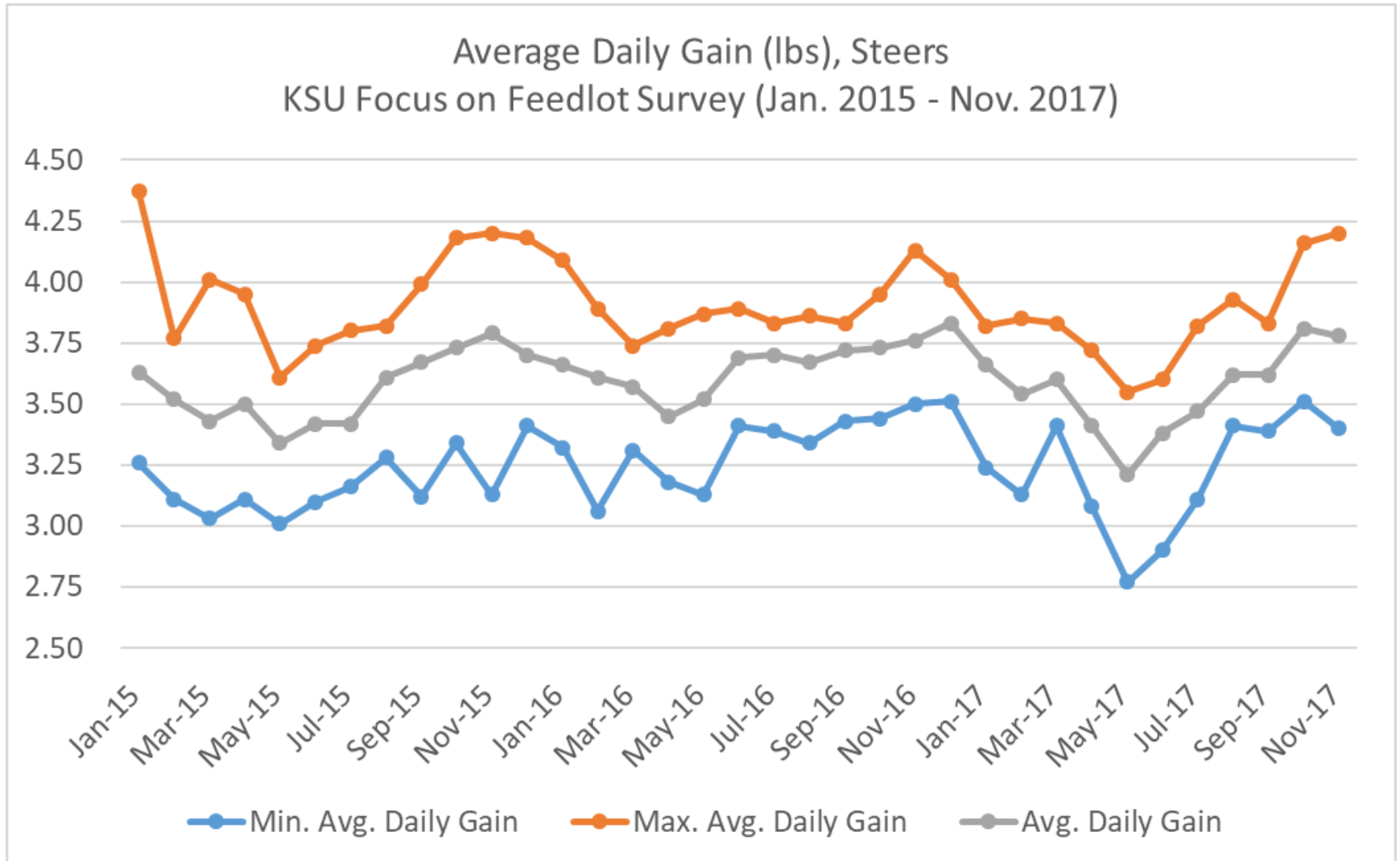
- Monthly barometer of KS feeding trends:  
<https://www.agmanager.info/livestock-meat/cattle-finishing-historical-and-projected-returns>
- Can get mean trends in DOF, ADG, F/G, and COG
  - Variation implied by min/max values also informative



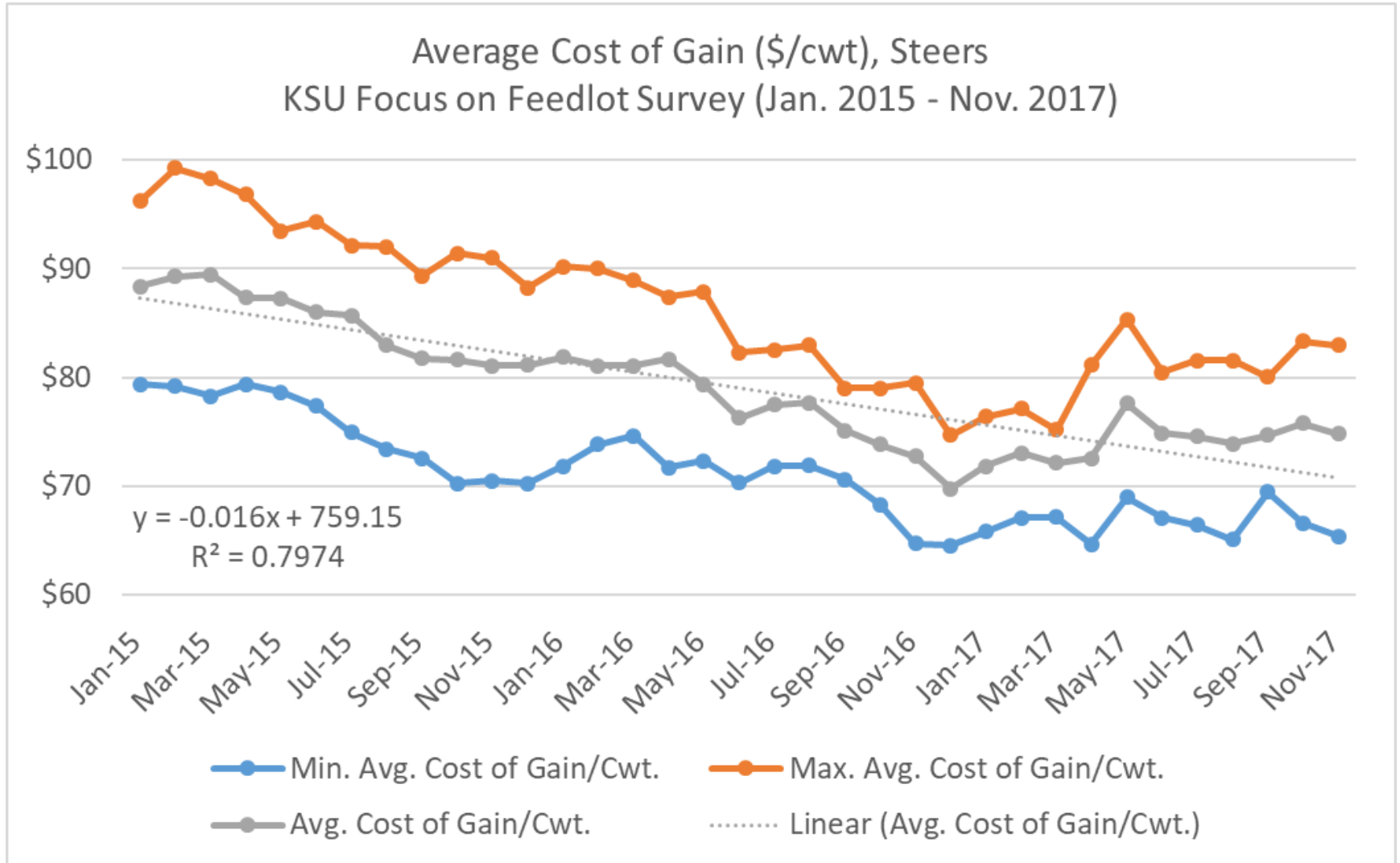
# What Can We Learn from KS?



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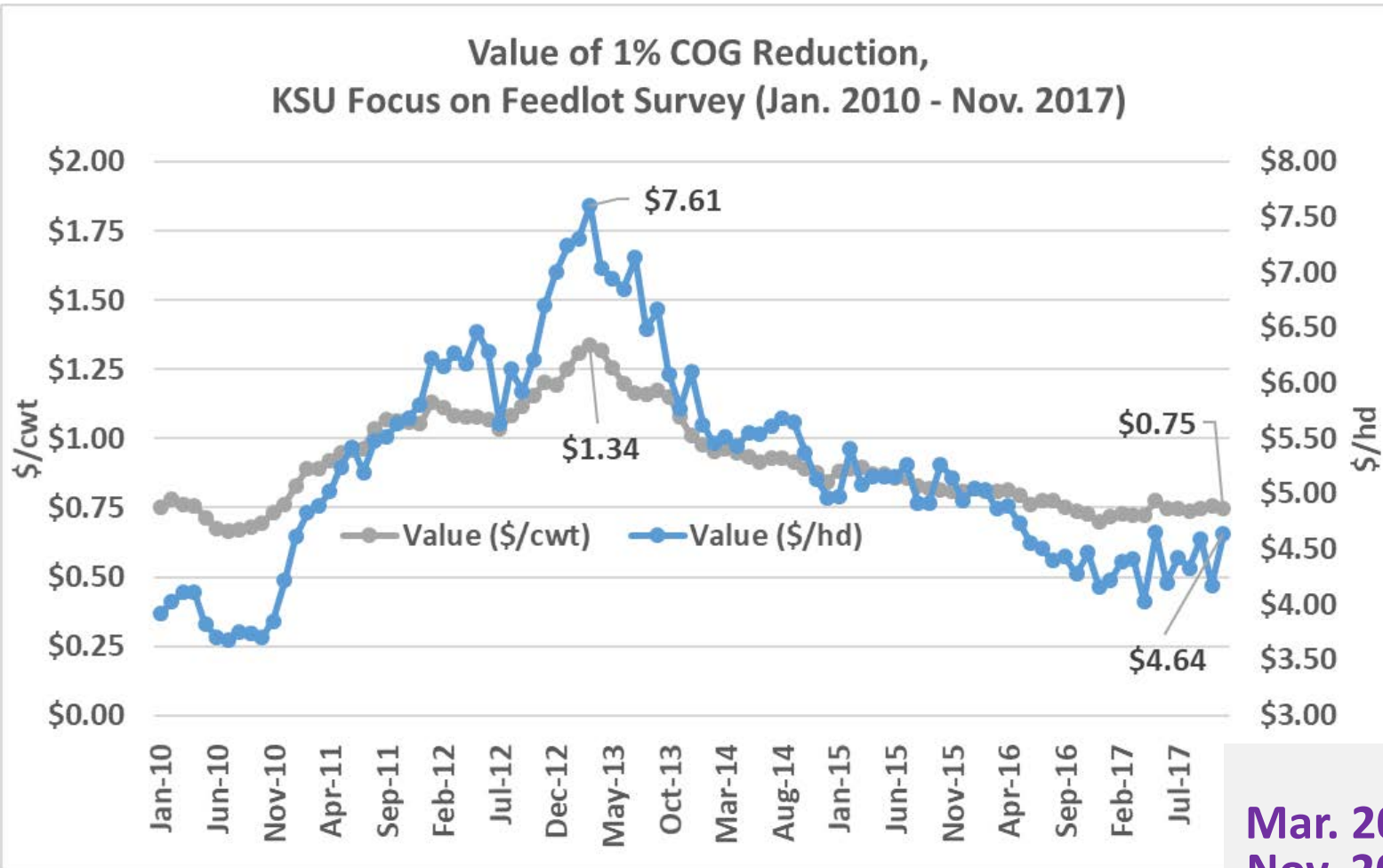


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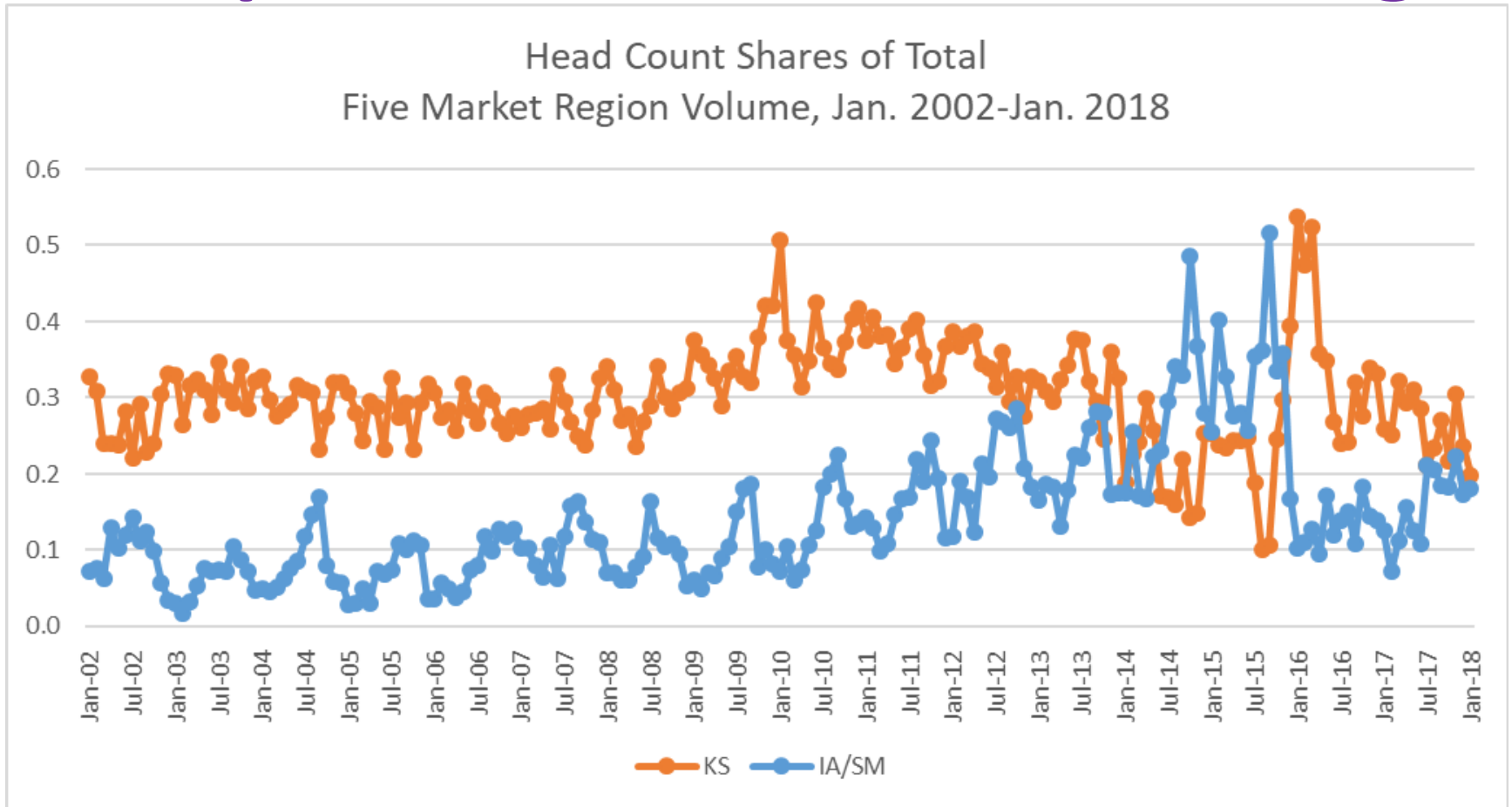
# What Can We Learn from KS?

## How much is a 1% COG reduction worth?



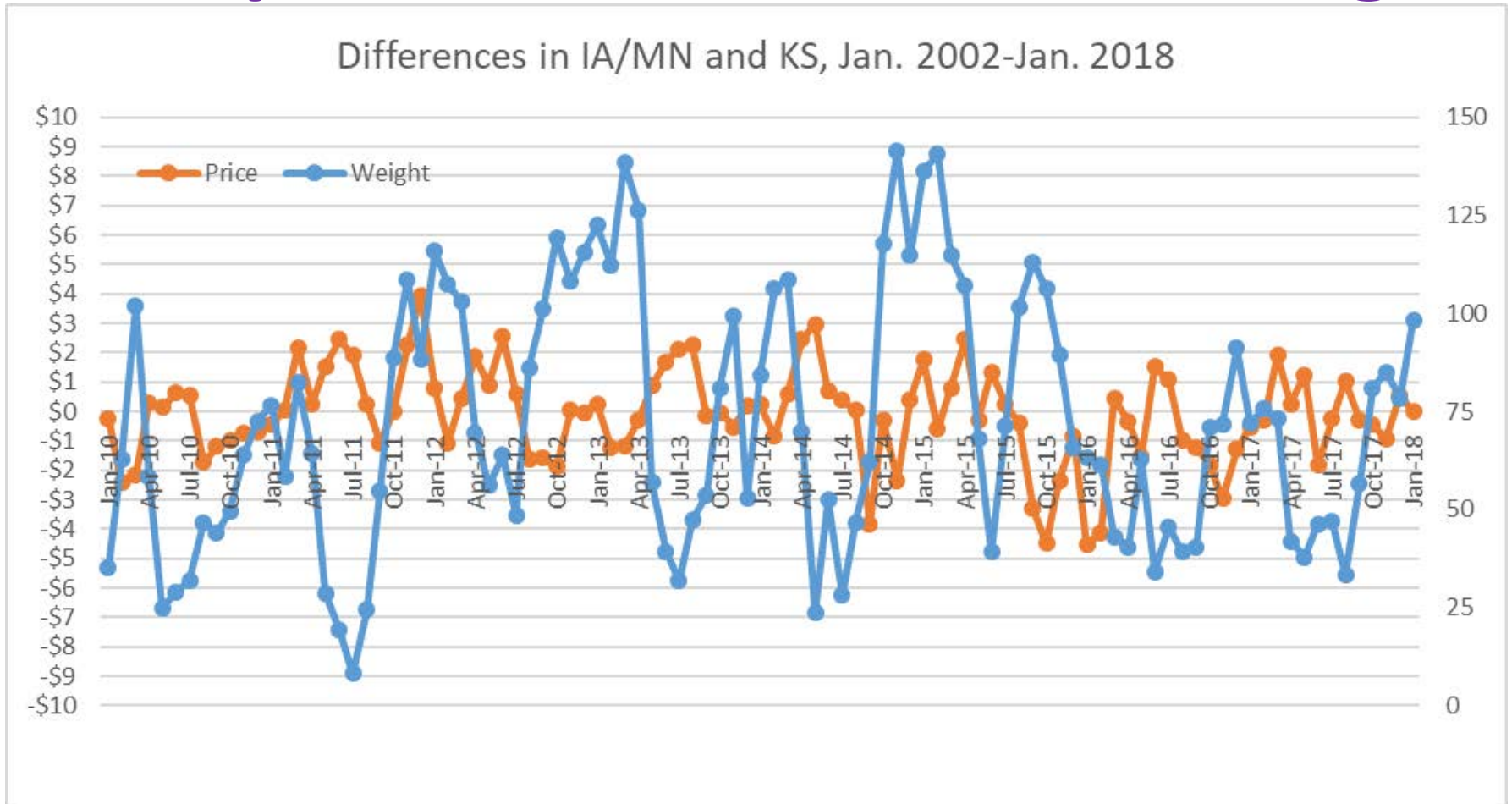
Mar. 2013: \$1.34/cwt  
Nov. 2017: \$0.75/cwt

# Composition of 5-Market Average



- IA/MN % is seasonal & peaks Sep-Nov most years
- Q4 2014/15 stand out

# Composition of 5-Market Average



- Jan10-Jan18 **Avg**: IA \$0.11 lower & 72 lbs heavier
- Nov 2014: IA \$2.34/cwt lower & 141 lbs heavier <sub>70</sub>

# Wrap-Up

- Broad 2018-2019 Profitability Outlook
  - Cow-calf:
    - Converging toward Long-Term Levels
    - 2017 Better than Expected, Hope Demand's Role is Recognized!
  - Stocker:
    - Margins vary widely across situations
      - Growing drought/feasibility impact
  - Feedlot:
    - 2017 offered notable equity recovery
    - 2018 has improved given demand strength
      - Challenges may grow during 2018-2019 (weights, demand, & trade...)

# Wrap-Up

- Feedlot Management
  - 1% COG reduction: likely achievable & certainly valuable
    - If output price taker, COG should be of central focus
  - Monitor make-up of 5-mkt average
  - Utilize KSU (& other) efforts to refine decisions & benchmark your situation



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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