

# APPLIED PRICE FORECASTING

AGEC 344 AG PRICE ANALYSIS

January 2014



Tim Petry  
Livestock Economist  
[www.ag.ndsu.edu/livestockeconomics](http://www.ag.ndsu.edu/livestockeconomics)

**NDSU** EXTENSION  
SERVICE

“If you read about something for only 1 hour a day, after 5 weeks you will be one of the world’s leading authorities on that subject!”

Source: Pat Williams, Senior Vice President, Orlando Magic

# Excel Spreadsheet

## N.D. Markets Feeder Cattle

Dickinson - Stockman's Livestock Exchange Cattle Prices

source: [www.ams.usda.gov/mnreports/SF\\_L8766.txt](http://www.ams.usda.gov/mnreports/SF_L8766.txt)

FEEDER STEERS MEDIUM AND LARGE 1

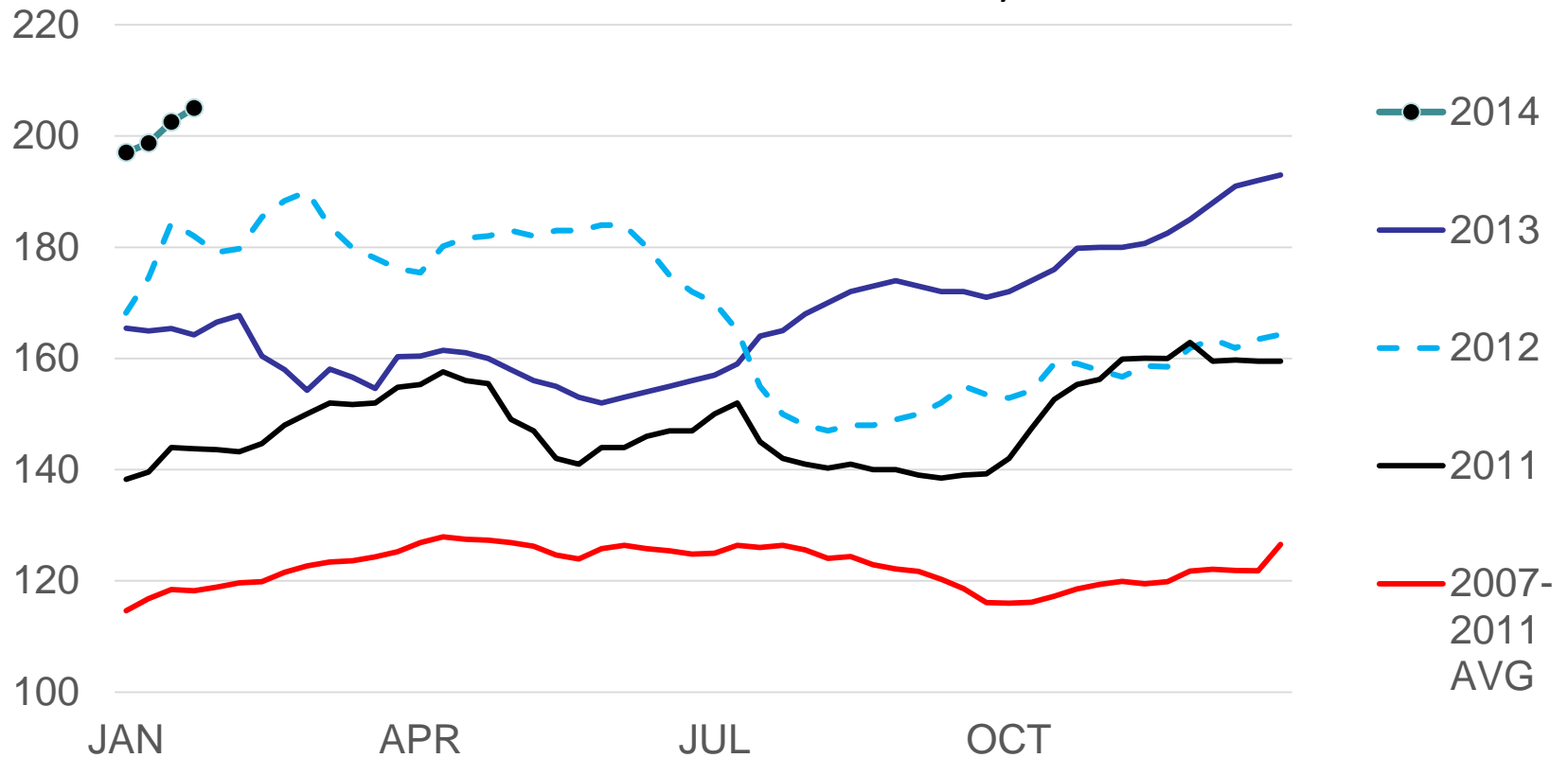
MONTHLY AVERAGES

MO/YR	400-450	450-500	500-550	550-600	600-650	650-700	700-750	750-800	800-850	850-900
Mar-03	103.91	102.44	97.78	92.21	89.87	83.59	80.09	77.19	74.34	71.86
Apr-03		103.83	101.87	98.05	92.85	89.97	85.88	82.29	78.51	74.71
May-03	109.12	108.55	106.89	102.22	98.87	93.74	88.38	86.19	81.06	80.85
Jun-03					92.18	93.71	91.00	86.92	83.21	78.65
Jul-03										
Aug-03	108.38	104.33	104.70	105.00	402.11	100.71	100.83	96.74	93.43	92.97
Sep-03	119.29	119.30	112.51	108.86	106.34	101.91	102.67	99.75	101.63	94.71
Oct-03	122.48	115.09	111.37	107.31	104.83	101.52	100.80	101.95		
Nov-03	128.36	117.89	110.08	106.77	105.68	104.34	99.88	96.68		
Dec-03	129.73	120.46	114.50	105.79	105.35	104.58	102.29	99.92	97.95	96.28
Jan-04	121.77	120.23	117.91	108.53	103.55	97.38	92.85	89.03	85.49	85.06
Feb-04	120.03	119.22	114.82	106.64	100.29	95.98	90.10	86.50	83.53	81.18
Mar-04	127.74	124.91	118.87	115.54	108.22	101.45	97.05	91.03	87.68	85.60
Apr-04	128.43	123.11	116.05	112.79	109.48	104.85	101.75	95.48	92.69	87.30
May-04		122.57	124.58	115.49	114.19	112.65	112.45	105.97	105.68	98.58
Jun-04										
Jul-04						125.00	123.23	120.00	117.40	
Aug-04	149.21	140.30	130.99	125.06	125.35	123.35	116.84	119.20	117.24	111.49
Sep-04	139.68	131.98	126.84	123.20	117.51	116.58	113.86		108.75	
Oct-04	144.96	131.60	124.40	122.07	117.86	114.08	110.51	114.17	105.25	
Nov-04	149.84	129.23	124.79	116.41	112.51	108.25	106.84	108.64	109.62	
Dec-04	138.43	134.58	125.70	117.40	109.80	108.21	104.12	101.58	102.03	96.54
Jan-05	138.29	129.52	128.78	123.34	114.79	109.77	106.63	102.93	101.12	98.33
Feb-05	141.17	132.87	126.85	123.87	116.82	110.98	108.96	104.43	98.94	95.30
Mar-05	153.61	147.50	135.17	128.81	124.23	117.62	109.71	105.27	104.78	101.13
Apr-05		145.50	132.41	134.55	131.27	124.13	122.27	112.56	106.58	102.05
May-05	142.50	142.44	138.75	133.78	127.91	125.57	124.00	118.50	111.25	
Jun-05										
Jul-05										
Aug-05					123.75	123.41	118.25	112.87	112.92	105.62
Sep-05	147.26	136.97	130.68	121.01	120.49	118.30	113.75	109.44	112.48	110.03
Oct-05	154.27	142.25	131.23	125.79	123.40	122.43	120.45	114.46	118.00	
Nov-05	159.20	147.56	139.85	130.26	126.17	123.11	119.57	116.67	111.91	
Dec-05	149.69	147.18	140.35	133.63	125.58	119.64	118.33	112.74	110.75	112.85

# “A Picture is Worth 1000 Words”

## MED. FRAME #1 STEER CALF PRICES

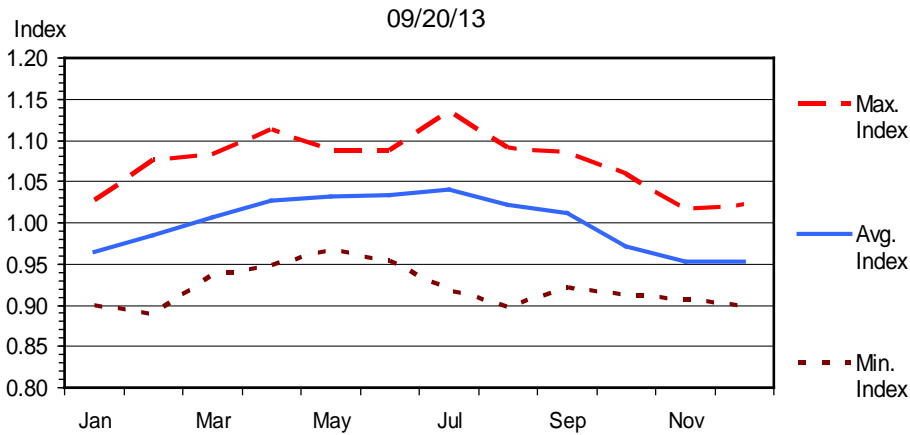
550-600 Pounds, N.D., Weekly



# Seasonal Price Patterns are the Most Important Price Prediction and Marketing Tool

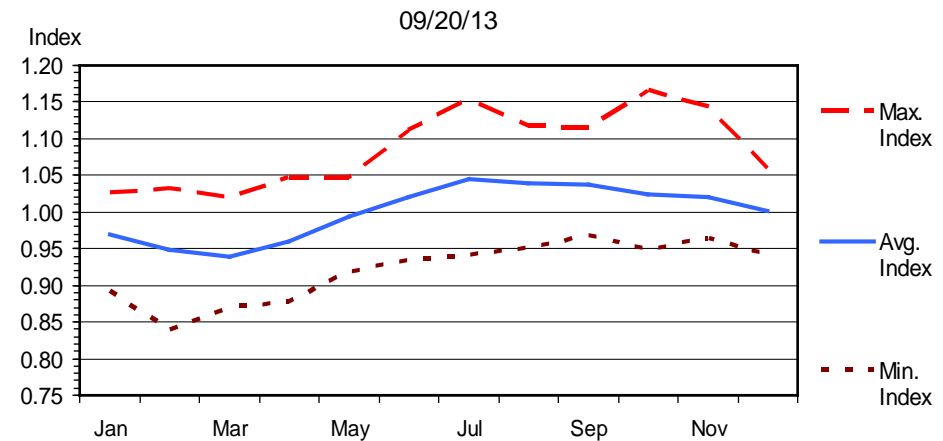
## SEASONAL PRICE INDEX -- STEER CALVES

500-600 Pounds, 2002-2012



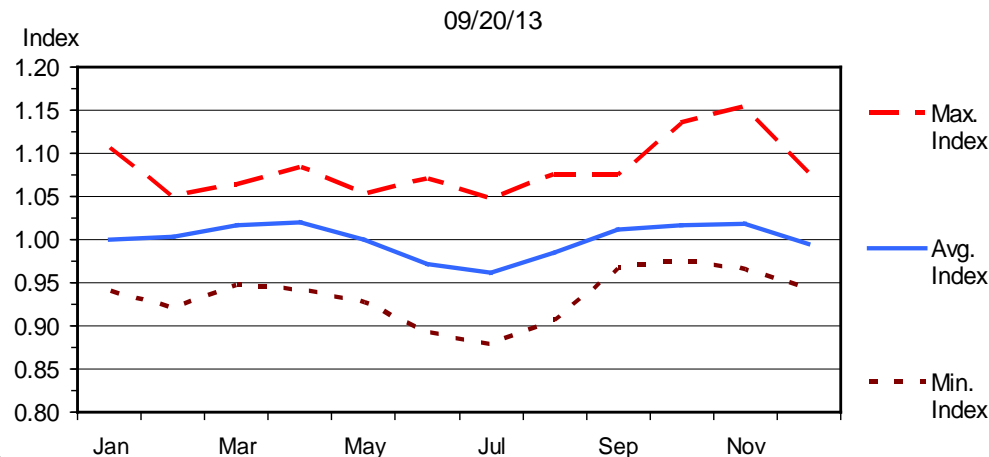
## SEASONAL PRICE INDEX -- FEEDER STEERS

700-800 Pounds, 2002-2012



## SEASONAL PRICE INDEX -- FED STEERS

2002-2012



# What causes seasonal price patterns?

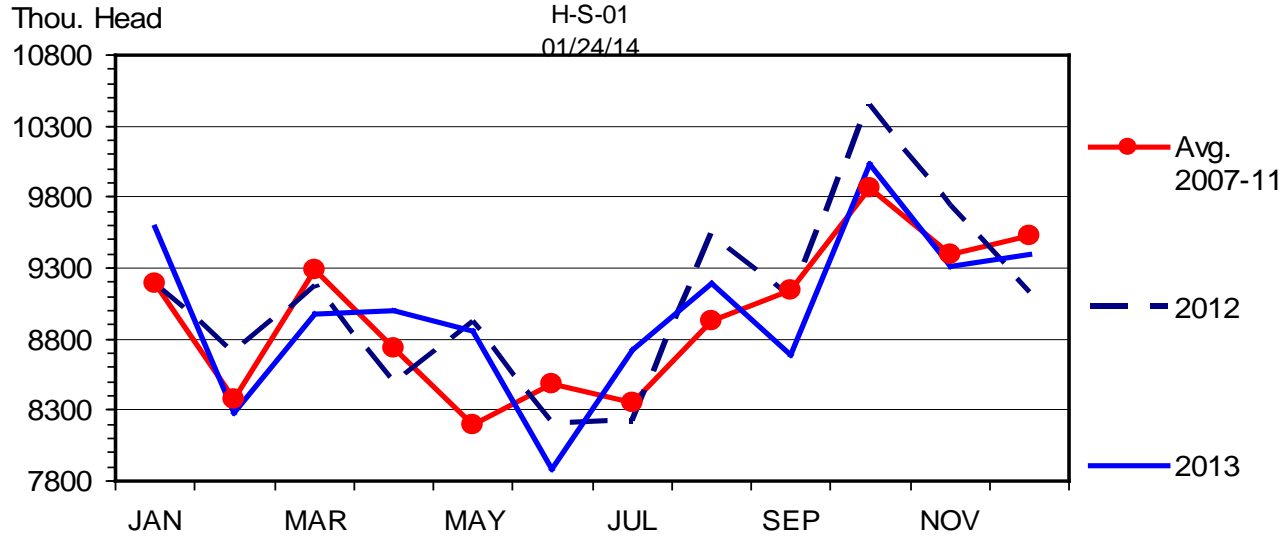
## 1. Both supply and demand

### – Supply

- Production (harvest)
- Carryover
- Imports
- Weather?

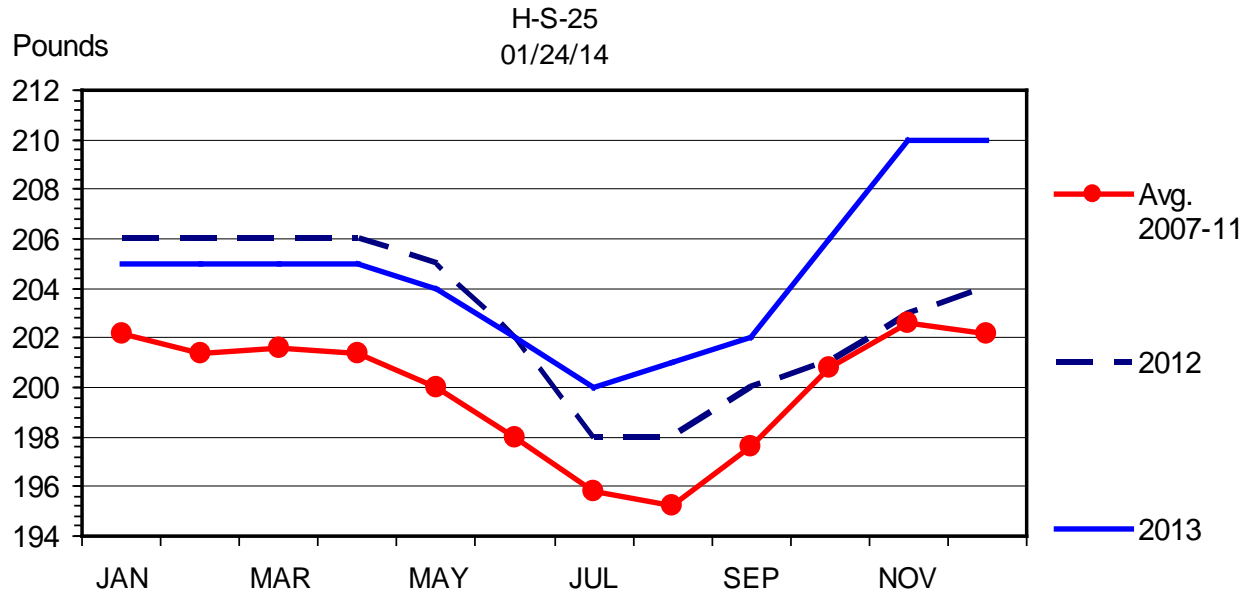
# BARROW AND GILT SLAUGHTER

Federally Inspected, Monthly



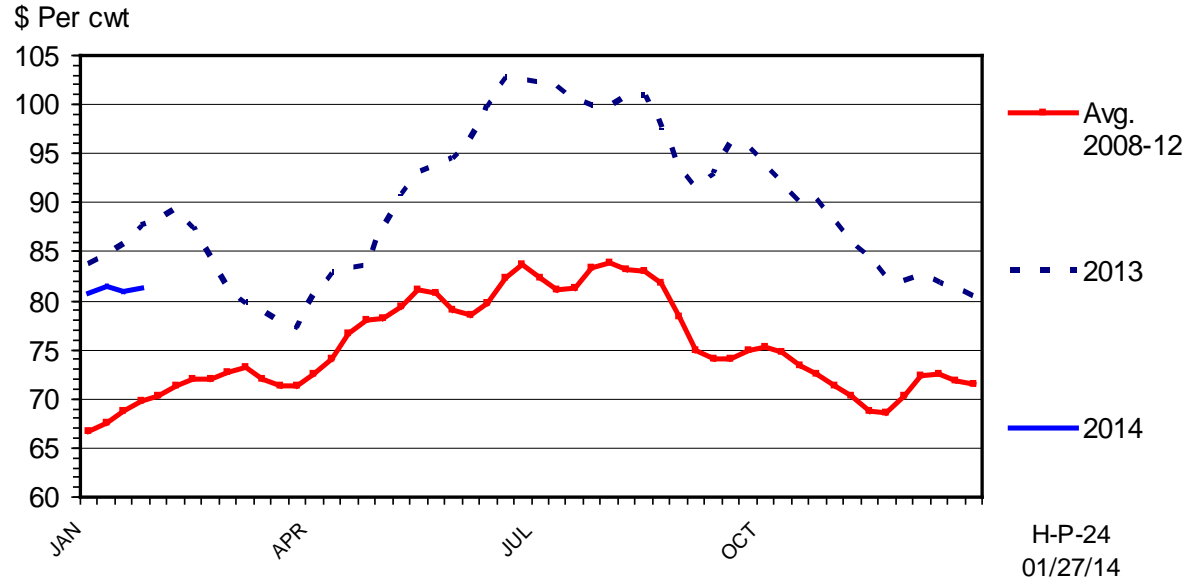
# AVG DRESSED WEIGHT - BARROWS & GILTS

Federally Inspected, Monthly



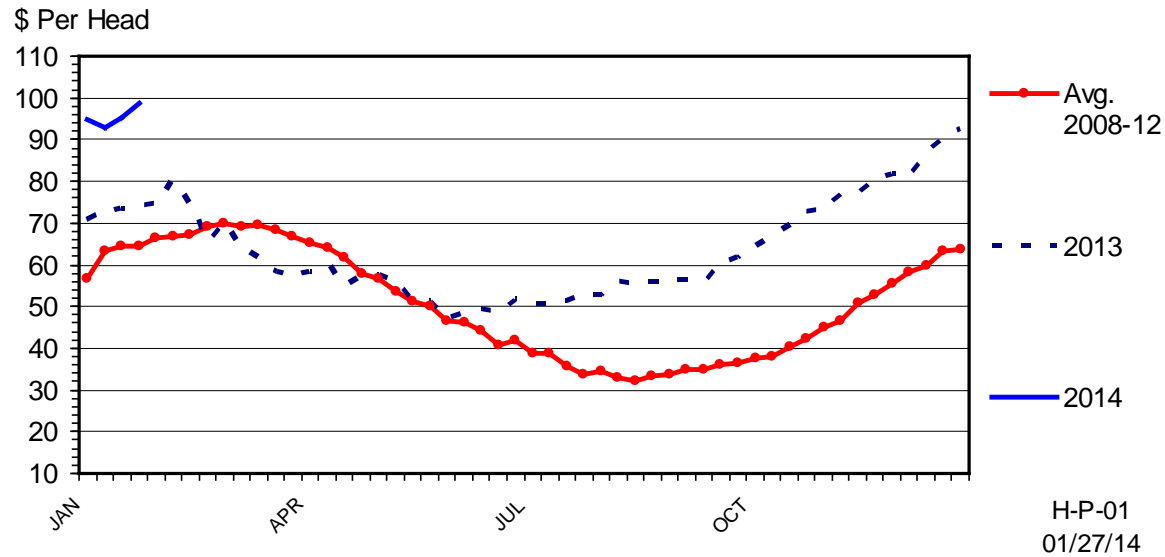
# NET SLAUGHTER HOG PRICES

National, Weighted Average Carcass Price, Weekly



# FEEDER PIG PRICES

40 Pounds, Weekly





# USDA Provides Excellent Supply Info

- World Agricultural Supply & Demand Estimates (WASDE)  
[www.usda.gov/oce/commodity/wasde/latest.pdf](http://www.usda.gov/oce/commodity/wasde/latest.pdf)
- Livestock, Dairy, Poultry Outlook  
[www.ers.usda.gov/Publications/Outlook](http://www.ers.usda.gov/Publications/Outlook)
- Cattle on Feed  
Cattle Inventory  
Hogs and Pigs  
Sheep and Goats  
[www.nass.usda.gov/Publications/index.asp](http://www.nass.usda.gov/Publications/index.asp)
- Market Reports  
[www.ams.usda.gov](http://www.ams.usda.gov)

# World Agricultural Supply and Demand Estimates

ISSN: 1554-9089

Office of the  
Chief Economist

Agricultural Marketing Service  
Farm Service Agency

Economic Research Service  
Foreign Agricultural Service

WASDE - 525

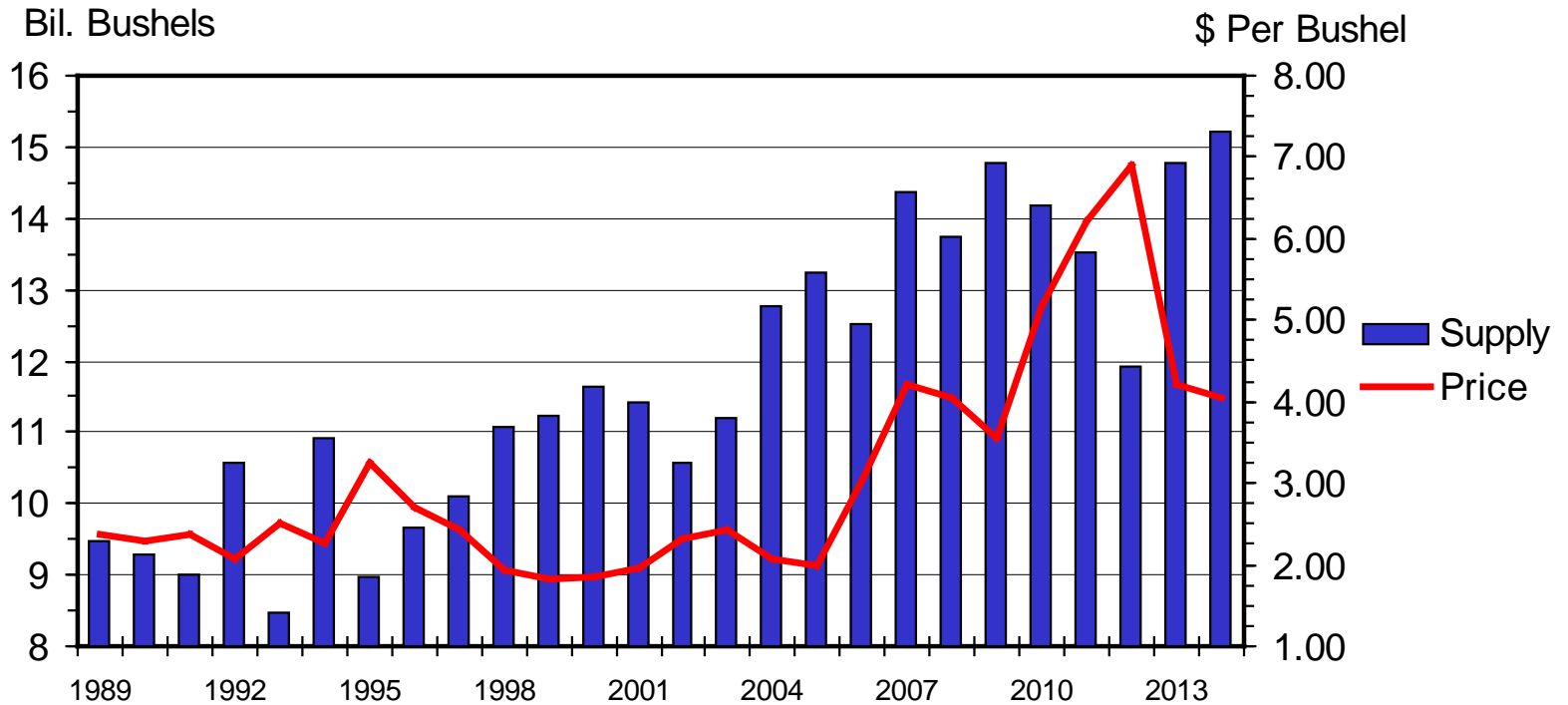
Approved by the World Agricultural Outlook Board

January 10, 2014

FEED GRAINS	2011/12	2012/13 Est.	2013/14 Proj. Dec	2013/14 Proj. Jan
<b>CORN</b>				
	<i>Million Acres</i>			
Area Planted	91.9	97.2	95.3	95.4
Area Harvested	84.0	87.4	87.2	87.7
	<i>Bushels</i>			
Yield per Harvested Acre	147.2	123.4	160.4	158.8
	<i>Million Bushels</i>			
Beginning Stocks	1,128	989	824	821
Production	12,360	10,780	13,989	13,925
Imports	29	162	30	35
Supply, Total	13,517	11,932	14,842	14,781
Feed and Residual	4,557	4,335	5,200	5,300
Food, Seed & Industrial 2/	6,428	6,044	6,400	6,400
Ethanol & by-products 3/	5,000	4,648	4,950	5,000
Domestic, Total	10,985	10,379	11,600	11,700
Exports	1,543	731	1,450	1,450
Use, Total	12,528	11,111	13,050	13,150
Ending Stocks	989	821	1,792	1,631
CCC Inventory	0	0	0	0
Free Stocks	989	821	1,792	1,631
Outstanding Loans	41	32	50	50
Avg. Farm Price (\$/bu) 4/	6.22	6.89	4.05 - 4.75	4.10 - 4.70

# U S TOTAL CORN SUPPLY AND PRICE

## Crop Year



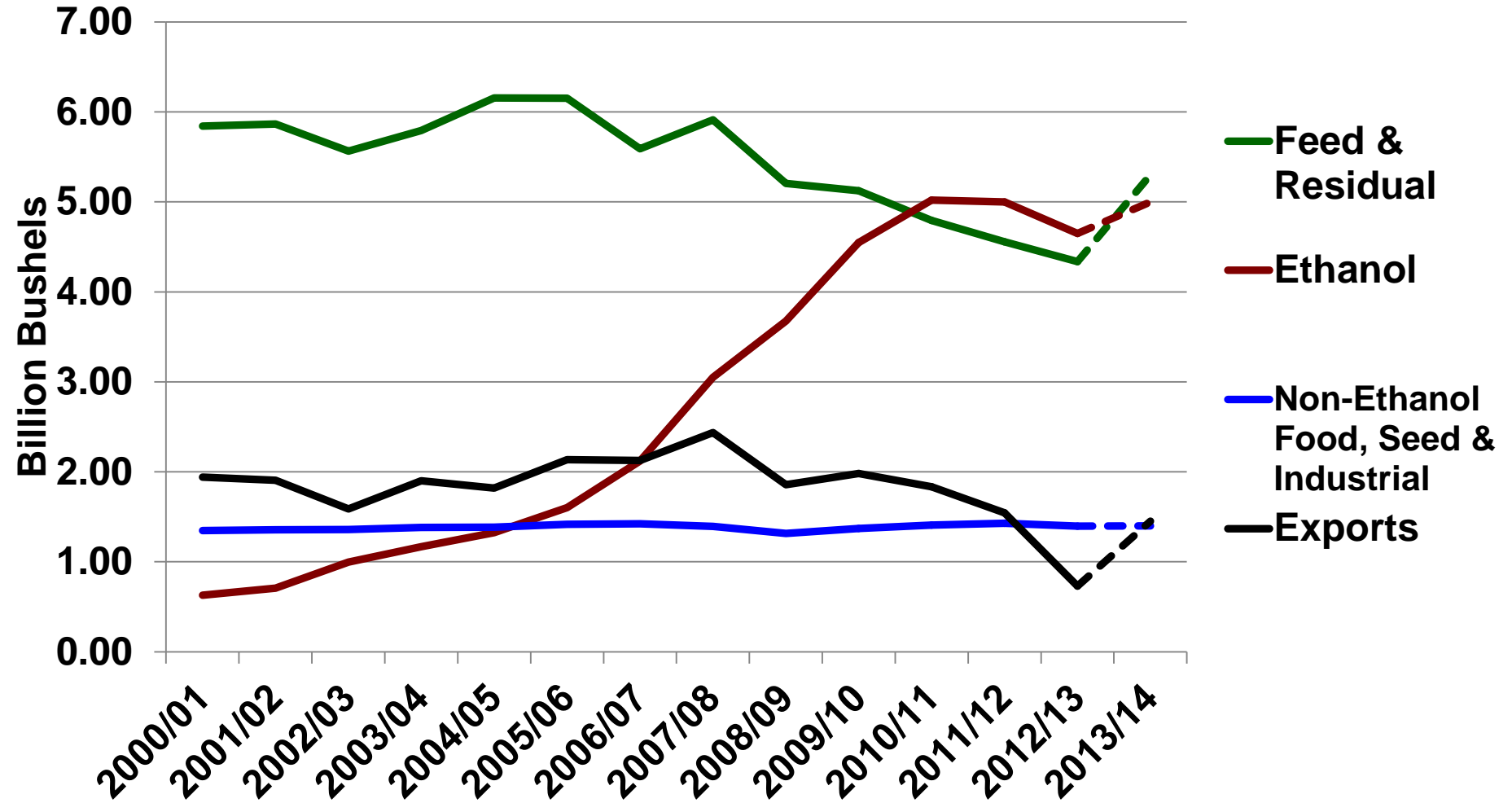
Livestock Marketing Information Center

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

G-NP-13  
01/10/14

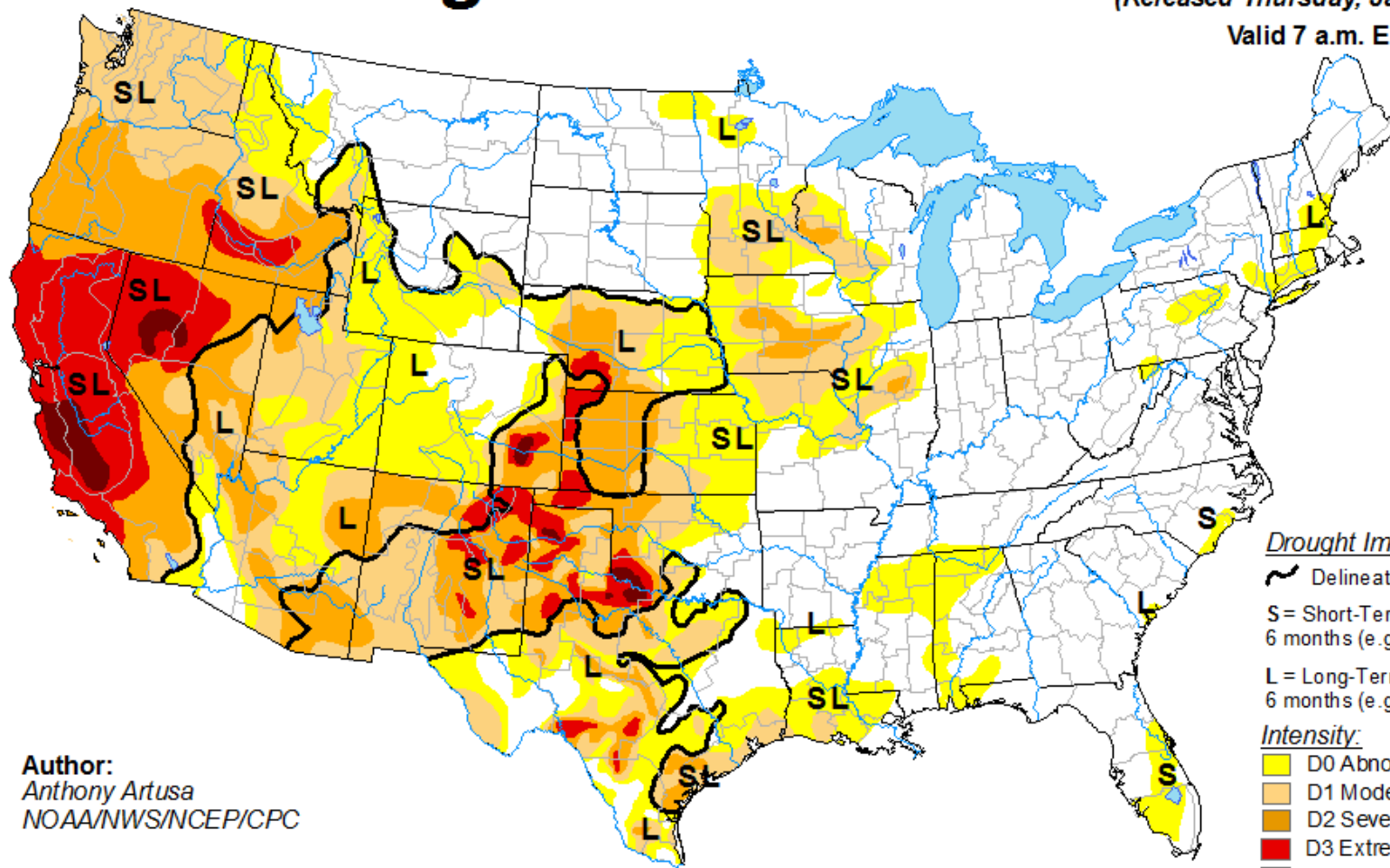
# Corn - Total Use

(Billion Bushels)



# U.S. Drought Monitor

January 28, 2014  
(Released Thursday, Jan. 30, 2014)  
Valid 7 a.m. EST



Author:  
Anthony Artusa  
NOAA/NWS/NCEP/CPC

### Drought Impact Types:

Delineates dominant impacts

S = Short-Term, typically less than 6 months (e.g. agriculture, grasslands)

L = Long-Term, typically greater than 6 months (e.g. hydrology, ecology)

### Intensity:

D0 Abnormally Dry

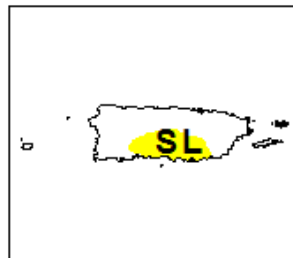
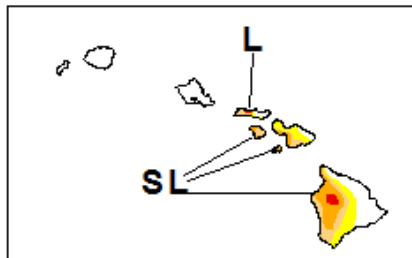
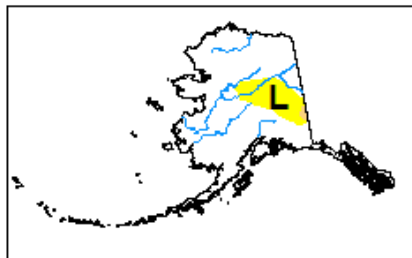
D1 Moderate Drought

D2 Severe Drought

D3 Extreme Drought

D4 Exceptional Drought

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.



<http://droughtmonitor.unl.edu/>

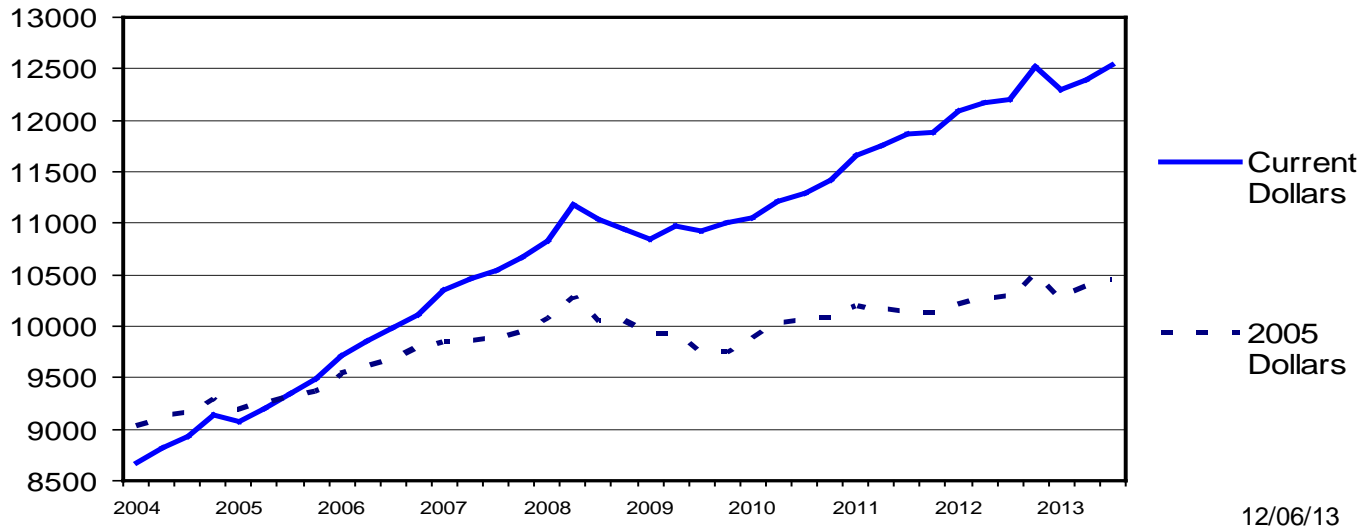
## 2. Demand

- Change is usually slow
  - Consumer incomes
  - Number of consumers
  - Consumer tastes
  - Consumer expectations
  - Prices of related goods
    - Substitutes/complements
  - Domestic vs export

# TOTAL DISPOSABLE PERSONAL INCOME

Quarterly

Bil. Dollars

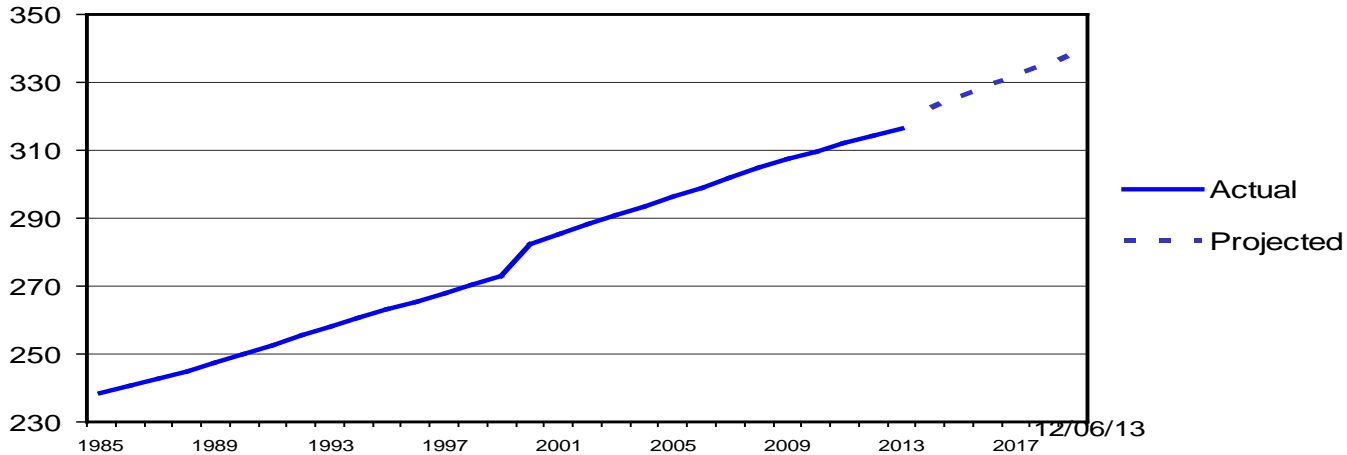


LMIC, Data Source: Bureau of Economic Analysis

# TOTAL US POPULATION ESTIMATES

Including Armed Forces Overseas, Annual (July 1)

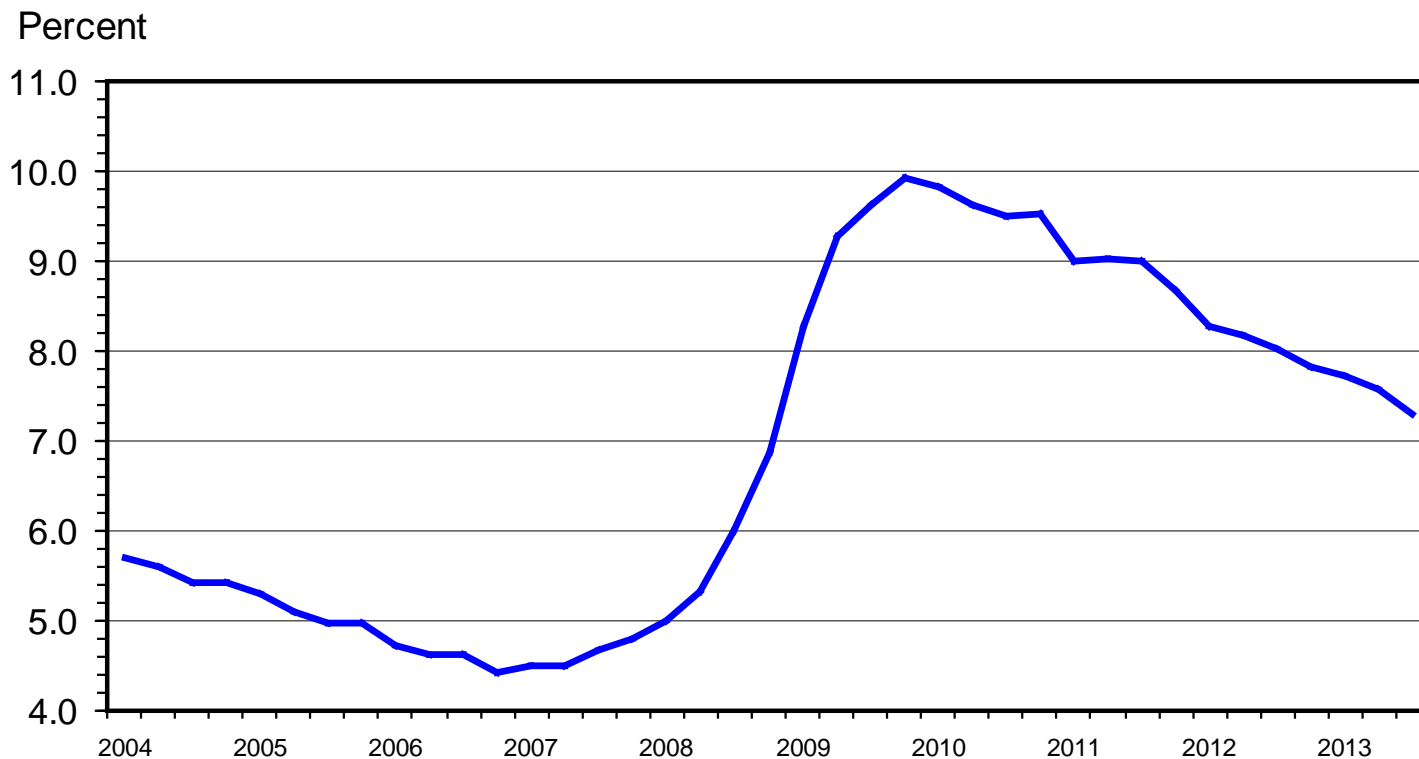
Million



LMIC: Data Source: Bureau of Labor Statistics, Compiled & Analysis by LMIC

# U.S. UNEMPLOYMENT RATE

Seasonally Adjusted, Quarterly

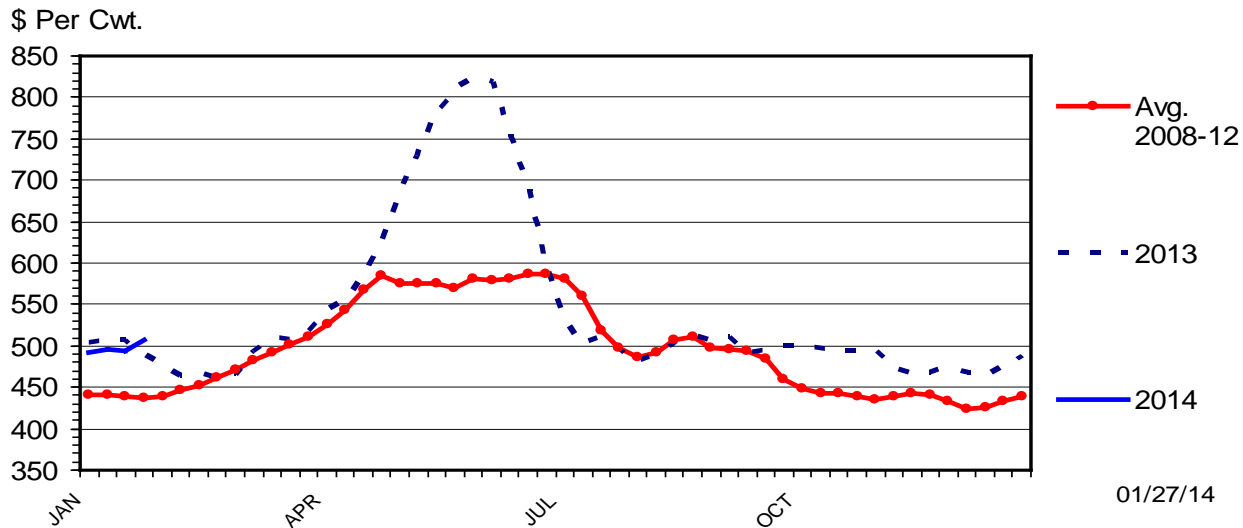




# Consumer Tastes

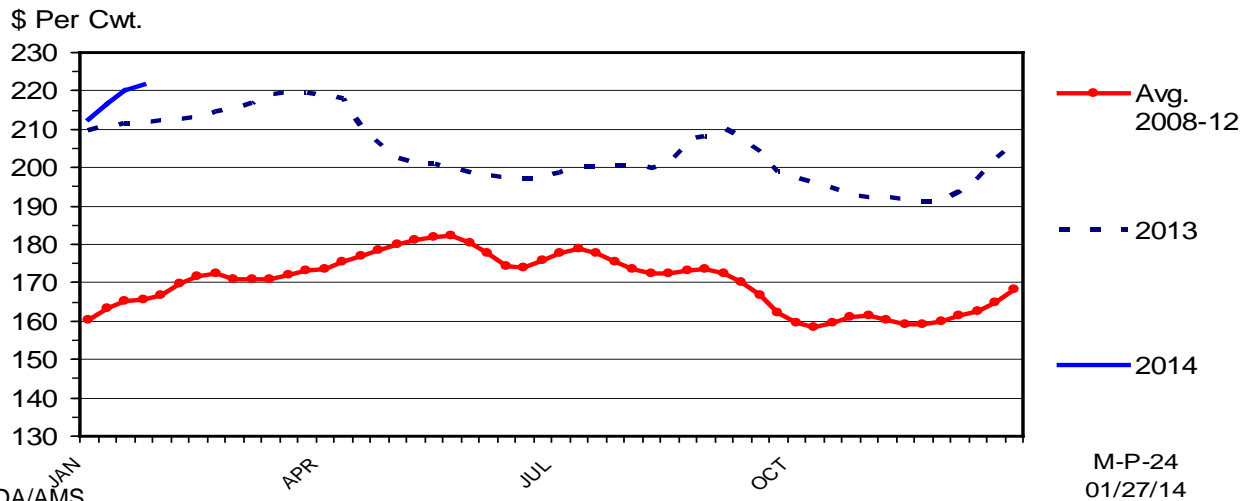
## WHOLESALE BEEF LOIN STRIP PRICES

Boneless 0x1, Weekly



## WHOLESALE BONELESS BEEF PRICES

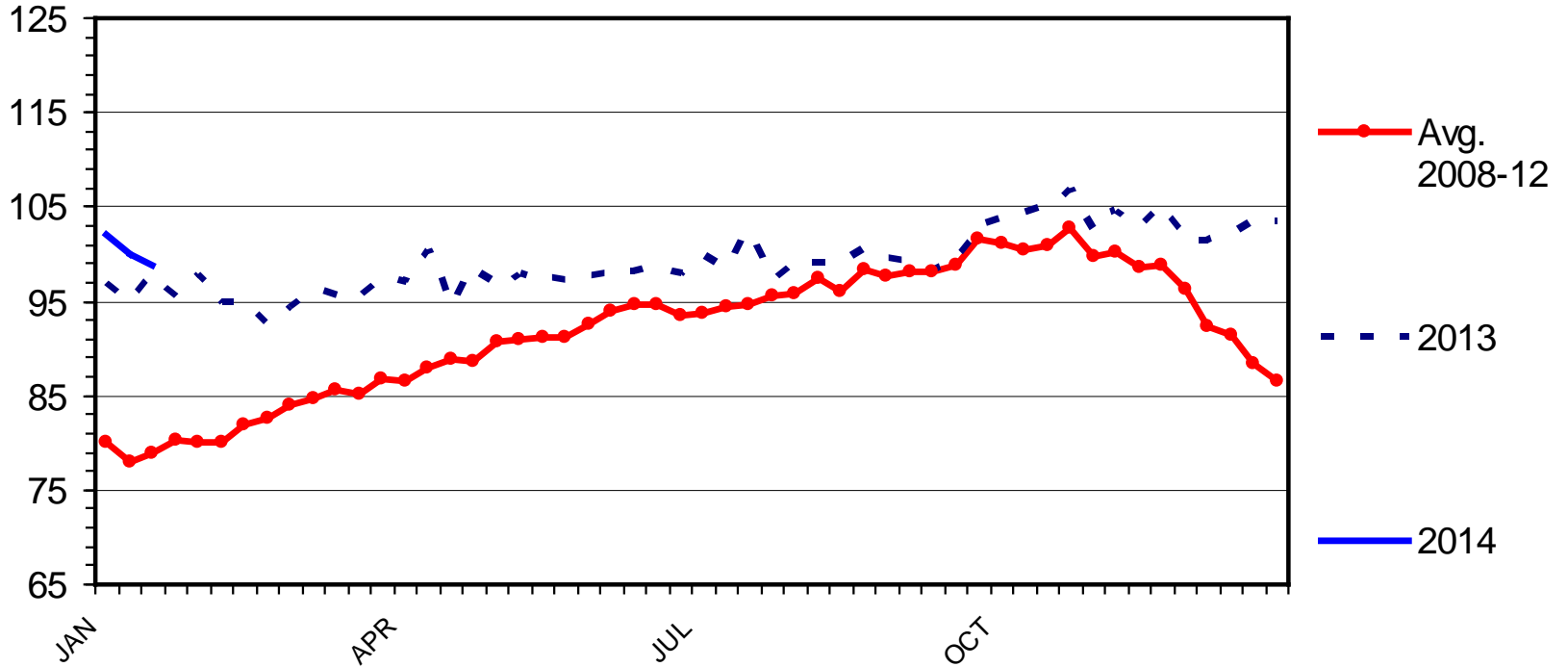
Fresh, 90% Lean, Weekly



# TURKEY PRICES

National Hens, 8-16 Pounds, Weekly

Cents Per Pound



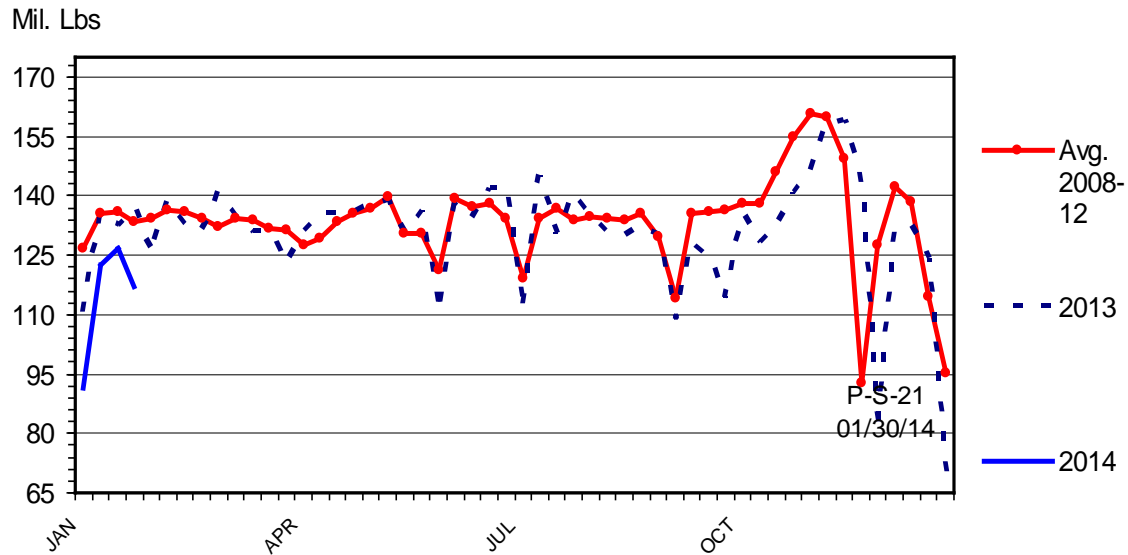
Livestock Marketing Information Center

Data Source: USDA-AMS

P-P-08  
01/24/14

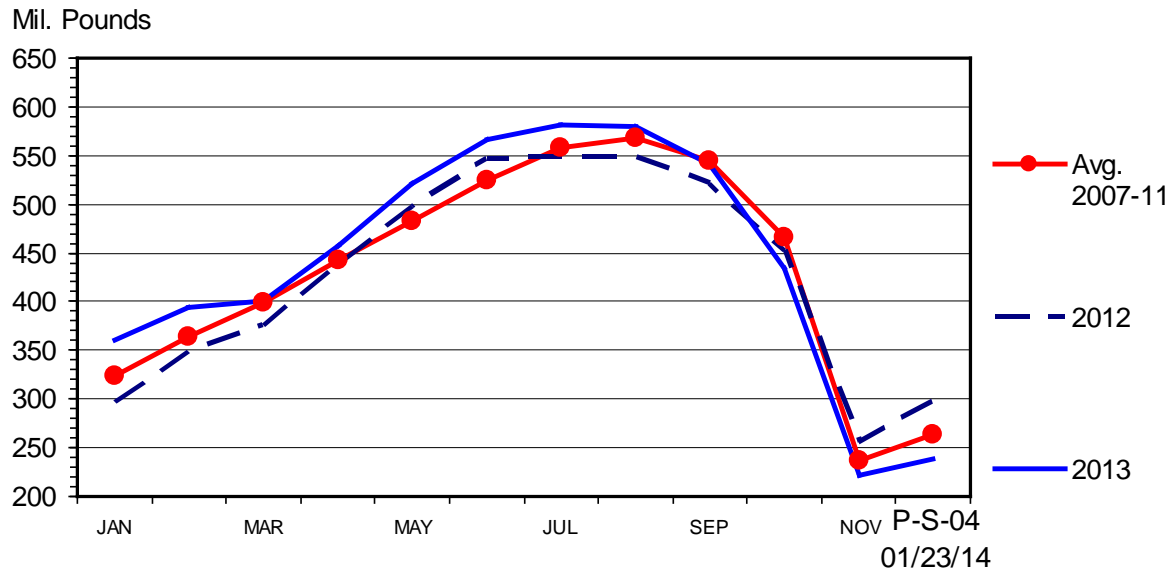
# TURKEY PRODUCTION

Federally Inspected, Weekly



# TURKEY IN COLD STORAGE

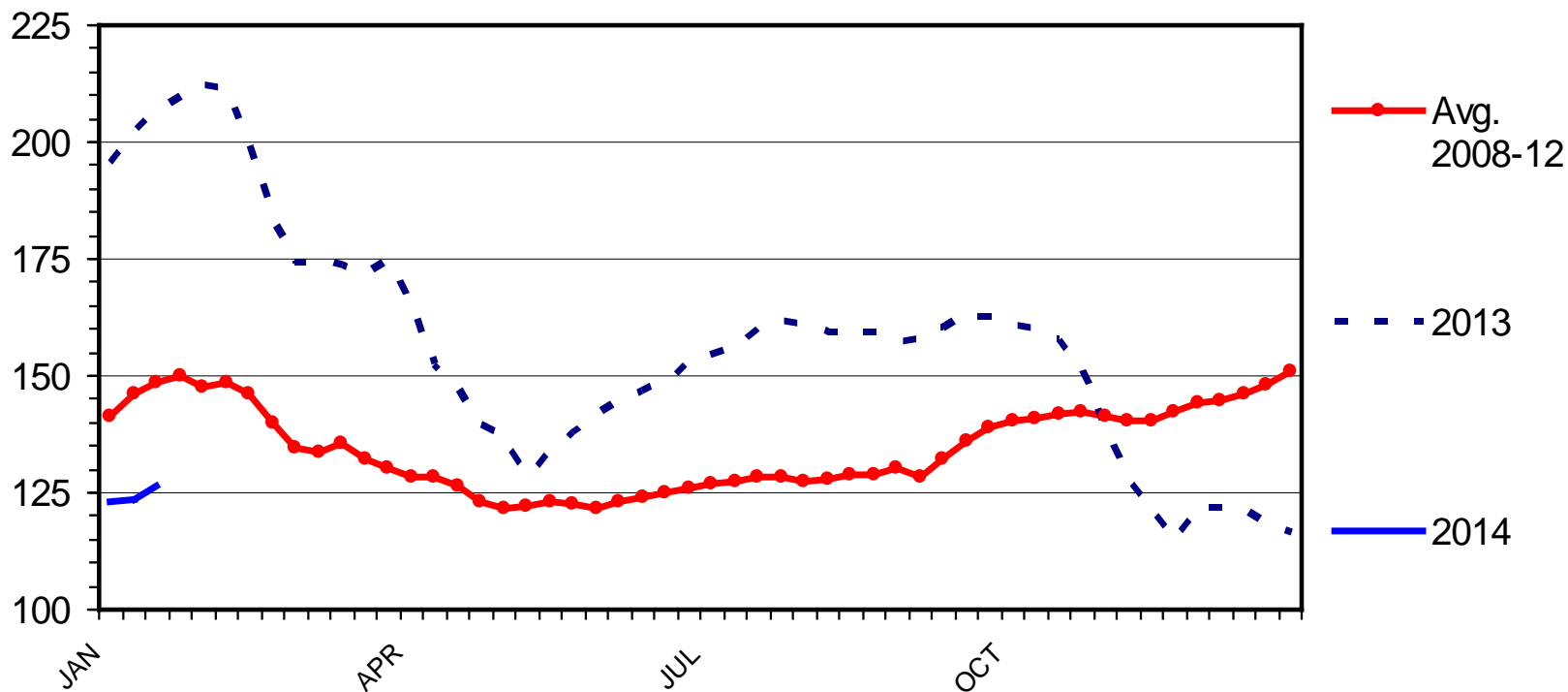
End of the Month



# WHOLESALE CHICKEN WING PRICES

Northeast, Truckload, Weekly

Cents Per Pound



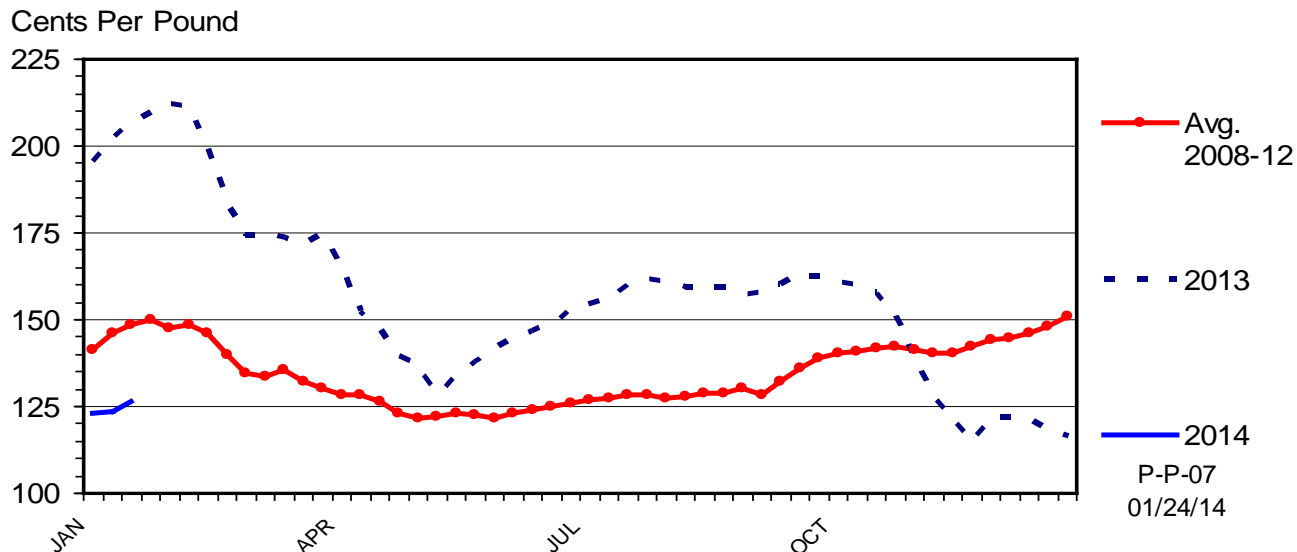
Livestock Marketing Information Center

Data Source: USDA-AMS

P-P-07  
01/24/14

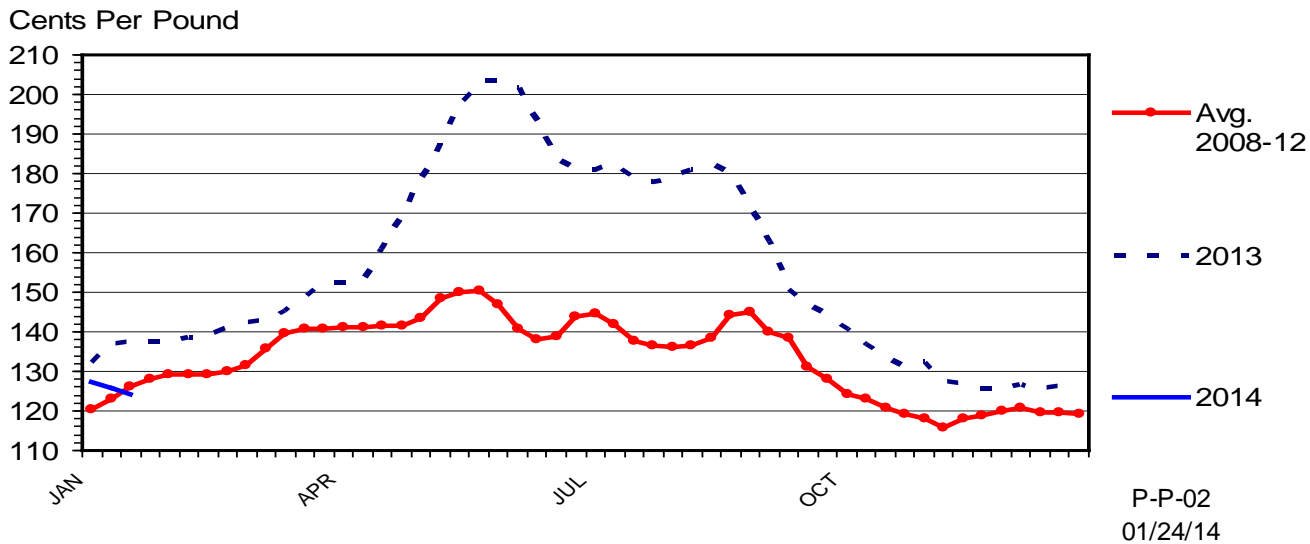
# WHOLESALE CHICKEN WING PRICES

Northeast, Truckload, Weekly



# WHOLESALE CHICKEN BREAST PRICES

Skinless/Boneless, Northeast, Truckload, Weekly



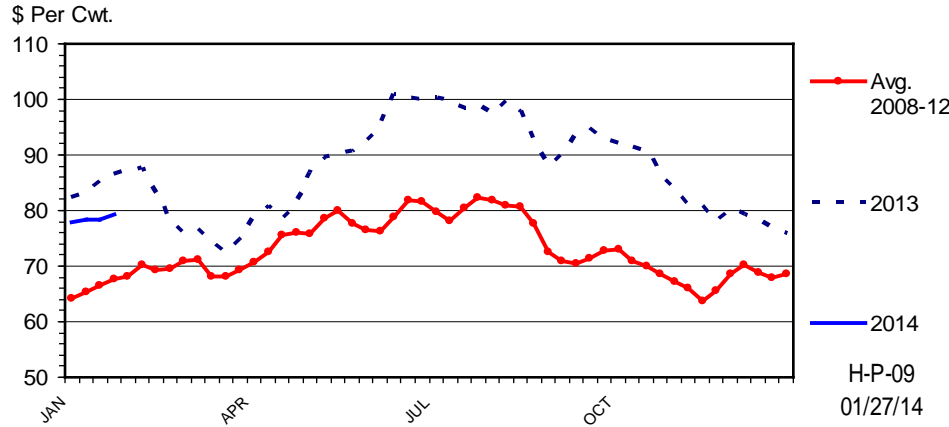
# Competing Meats - Substitutes

Livestock Marketing Information Center

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

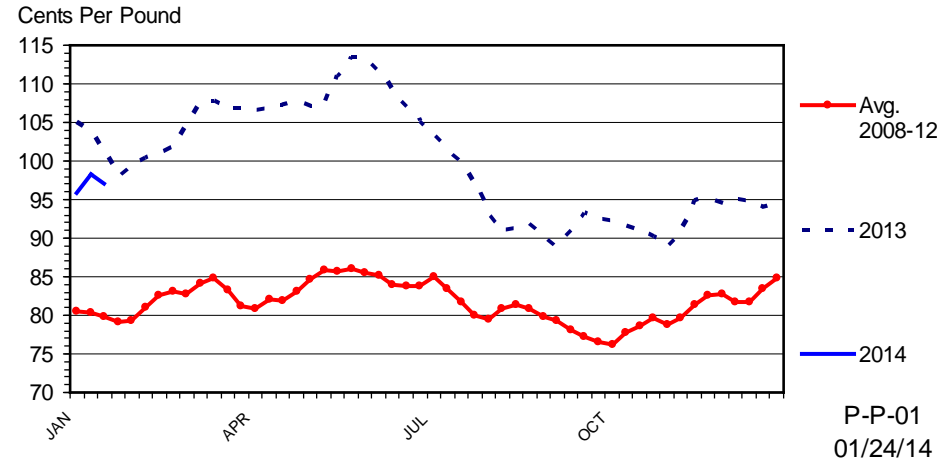
## BARROW AND GILT PRICES

Iowa - So. Minnesota, Carcass Base Price, Weekly



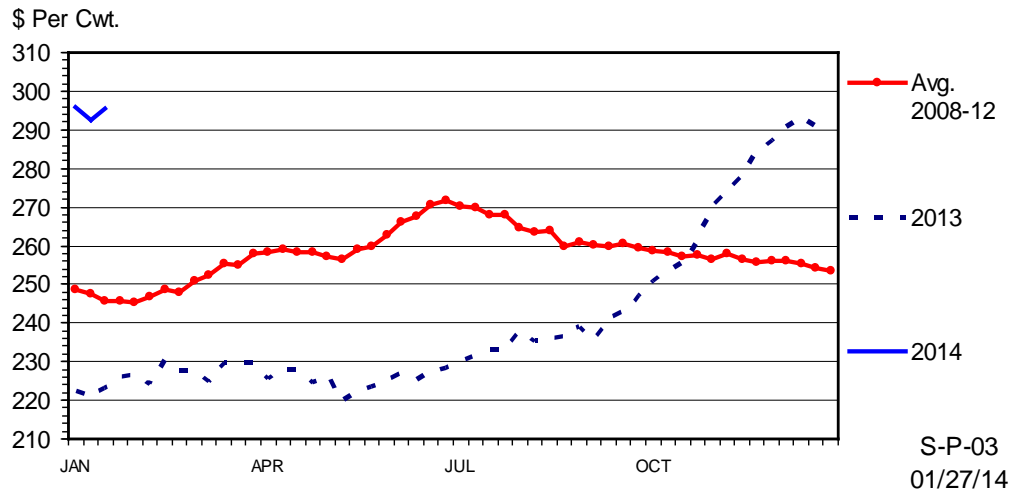
## BROILER PRICES

National Composite, Weekly

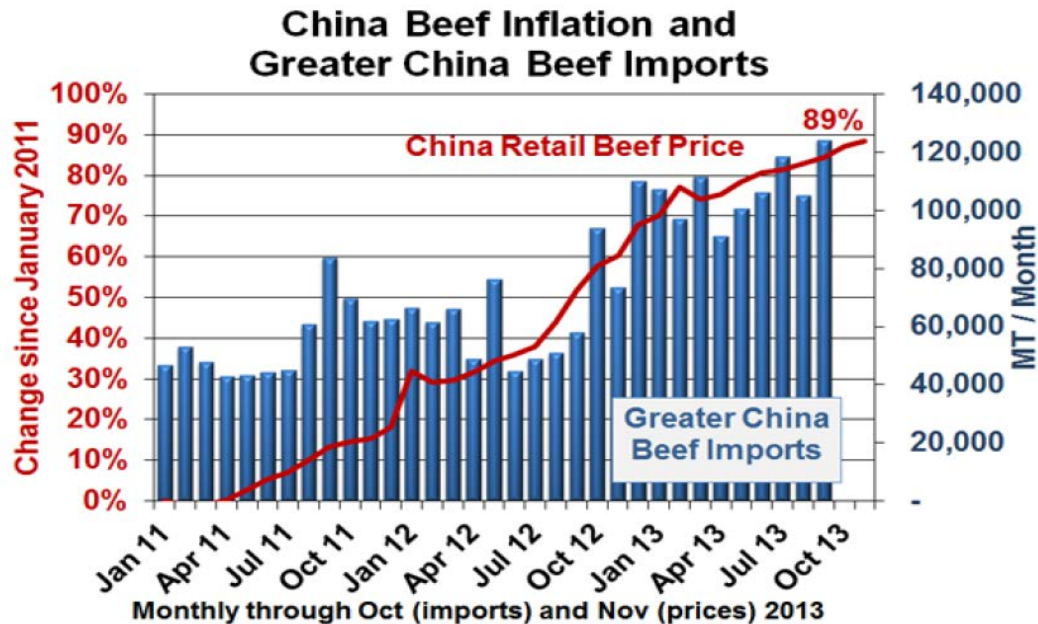
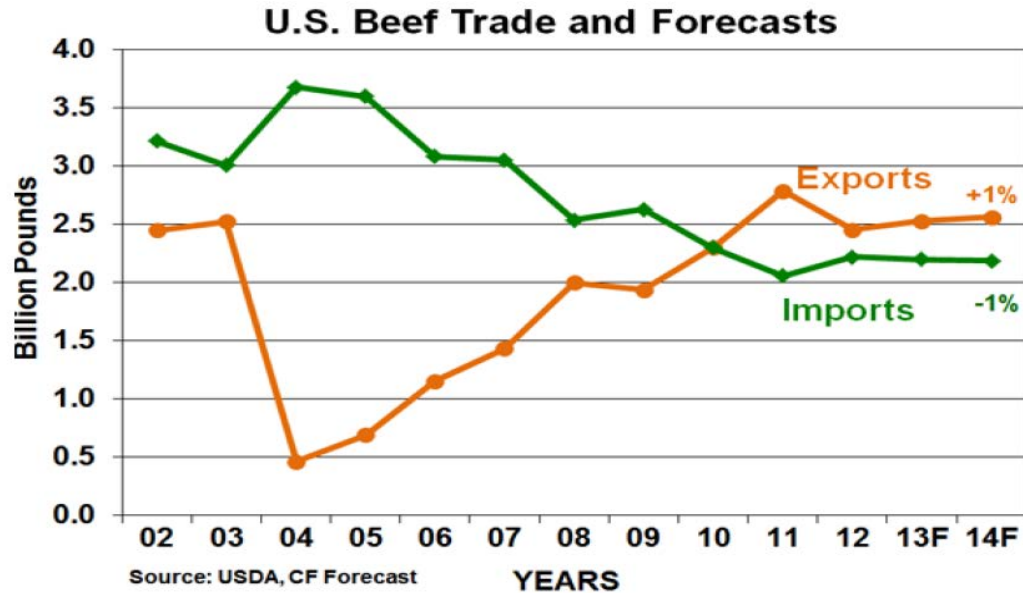


## SLAUGHTER LAMB PRICES

National Direct, Hot Carcass, Weekly

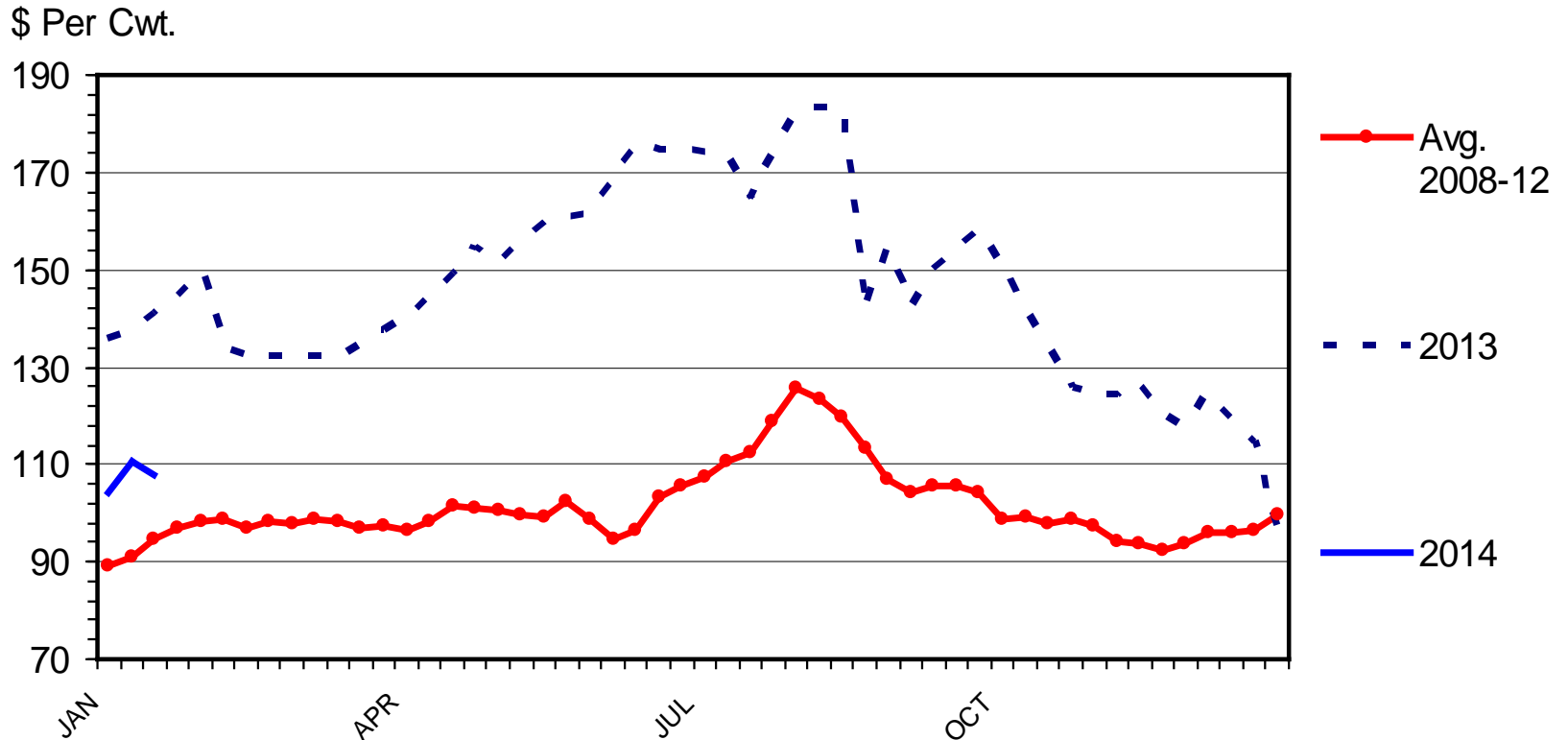


# Beef Exports



# Complements

## WHOLESALE PORK BELLY PRICES Skin-on, 14-16 Pounds, Weekly

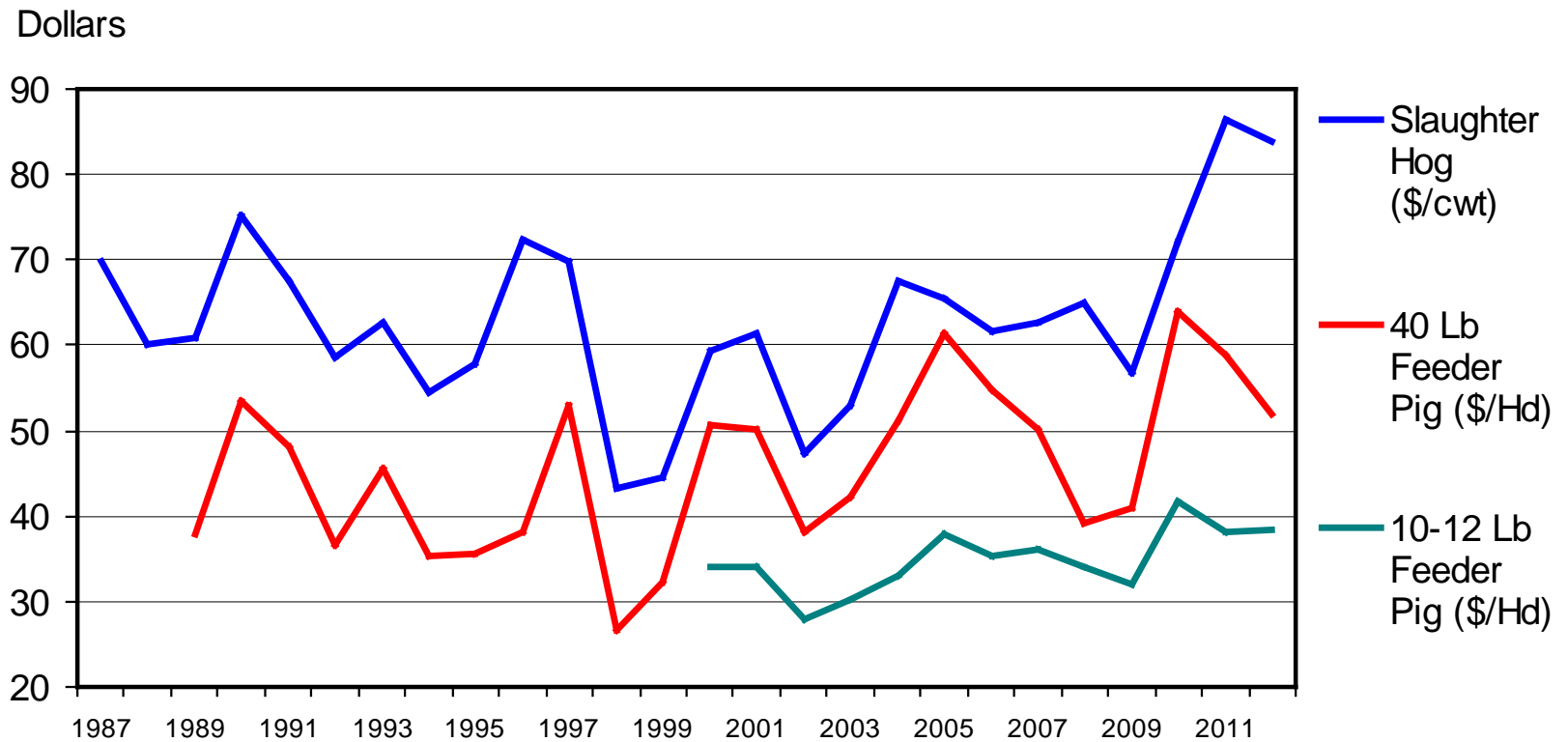




# High (Low) Prices Cure High (Low) Prices

## ANNUAL AVERAGE HOG PRICES

National

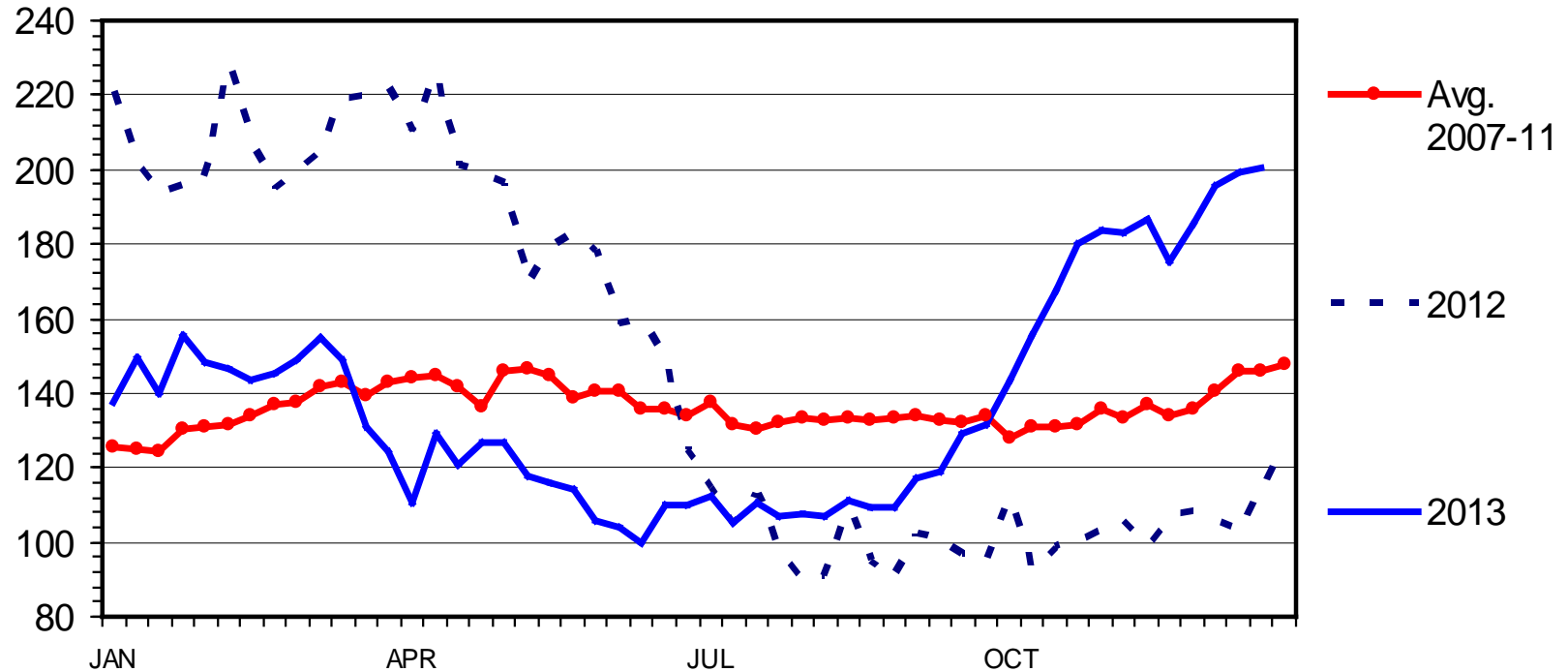


# Volatile Ag Prices

## FEEDER LAMB PRICES

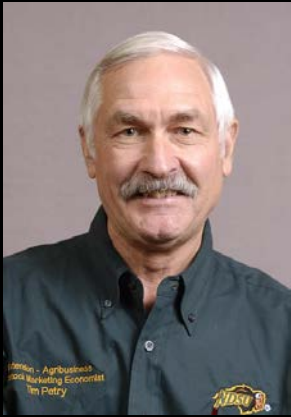
3-Market Average; CO, TX & SD; Weekly

\$ Per Cwt.



**What will 2014 cattle prices be?**





**NDSU**  
Extension Service

Photo courtesy of Judy Jacobson, Watford City

# Cattle Situation and Outlook

Tim Petry – Livestock Economist  
[www.ndsu.edu/livestockeconomics](http://www.ndsu.edu/livestockeconomics)  
February 3, 2014

All beef cattle market classes  
broke price records in 2011 and 2012  
also wholesale beef prices  
retail beef prices



How about 2013?  
What could derail prices?  
2014?

# Livestock Price and Production Patterns

1. Seasonal
2. Cycle
3. Long term
4. Unexpected

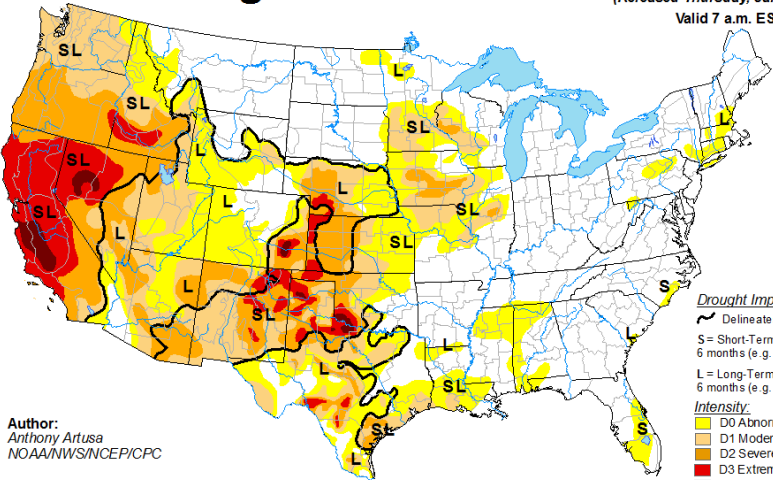


**Tsunami**  
**Economic Crisis**  
**Foot and Mouth**  
**HSUS videos**  
**2014?**  
**Avian Influenza**  
**Export Bans**  
**LFTB**  
**BSE**  
**E Coli**  
**H1N1**  
**Drought**  
**9/11**  
**Competing Meats**  
**Government Regulations**  
**Oprah**  
**Beta-Agonists**  
**Dock Strike**  
**Animal Rights**

# What a Difference

## U.S. Drought Monitor

January 28, 2014  
(Released Thursday, Jan. 30, 2014)  
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Author:  
Anthony Artusa  
NOAA/NWS/NCEP/CPC

Drought Impact Types:

~ Delineates dominant impacts  
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Intensity:

- D0 Abnormally Dry
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- D2 Severe Drought
- D3 Extreme Drought
- D4 Exceptional Drought

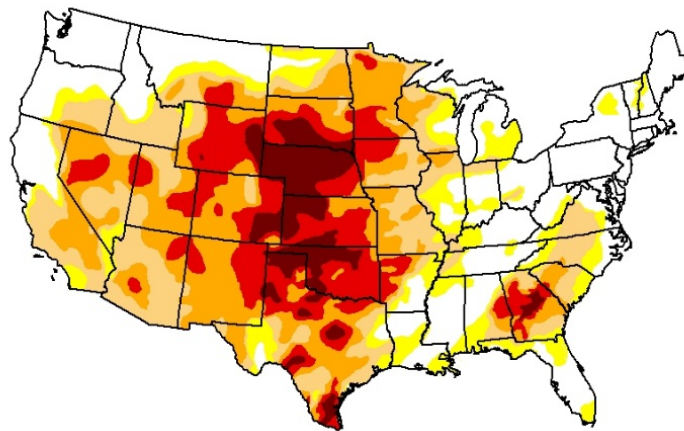
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<http://droughtmonitor.unl.edu/>

## U.S. Drought Monitor CONUS

January 1, 2013  
(Released Thursday, Jan. 3, 2013)  
Valid 7 a.m. EST



Intensity:

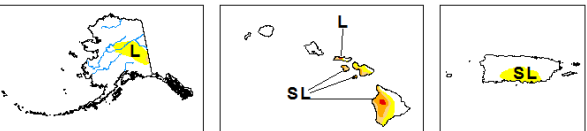
- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
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- D4 Exceptional Drought

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

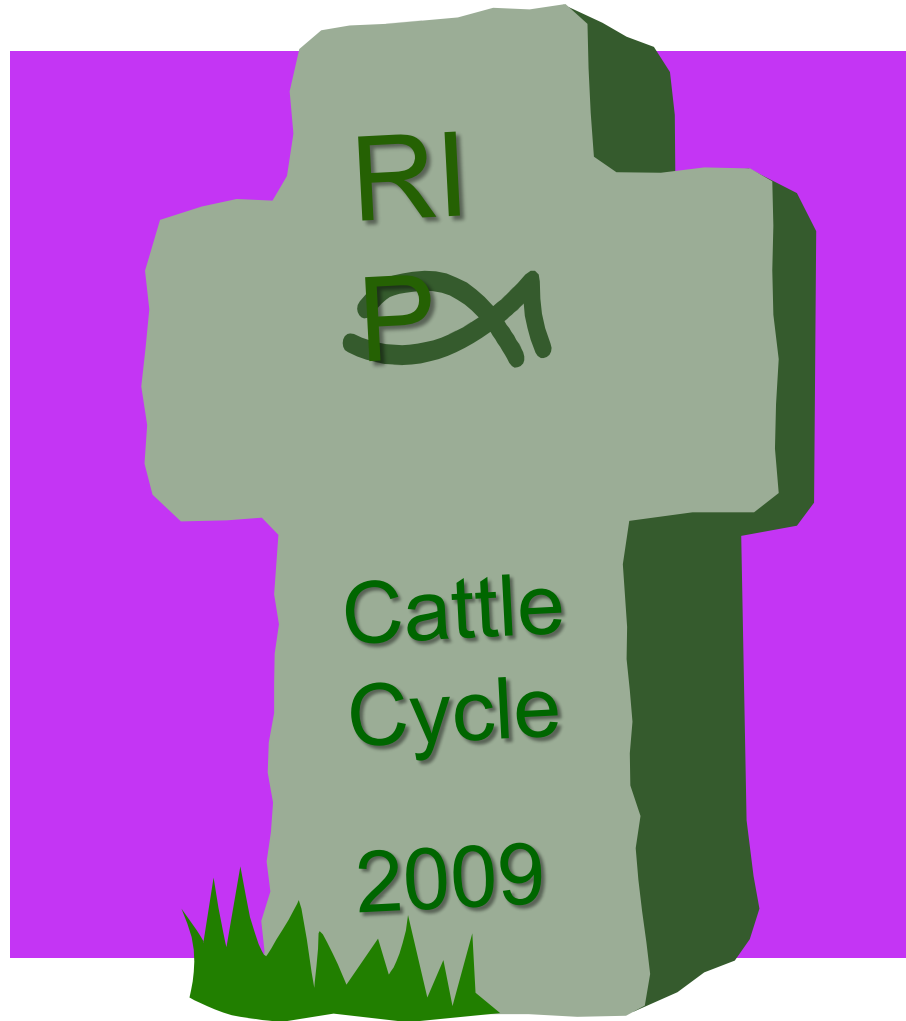
Author:  
Richard Heim  
NCDC/NOAA



<http://droughtmonitor.unl.edu/>



# Is the Cattle Cycle Dead?

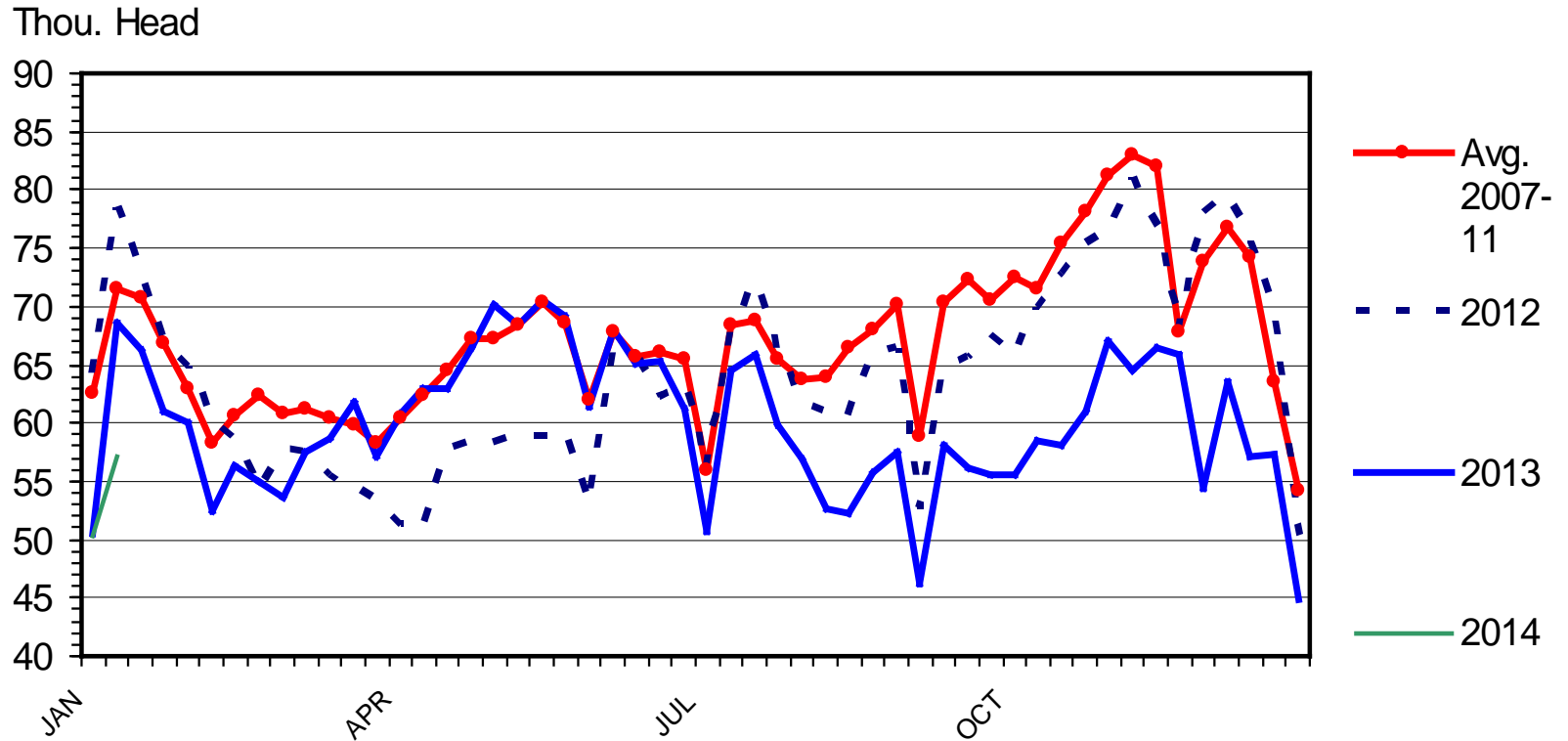


**When will beef cow slaughter decline?  
When will beef herd rebuilding start?**



# BEEF COW SLAUGHTER

## Federally Inspected, Weekly



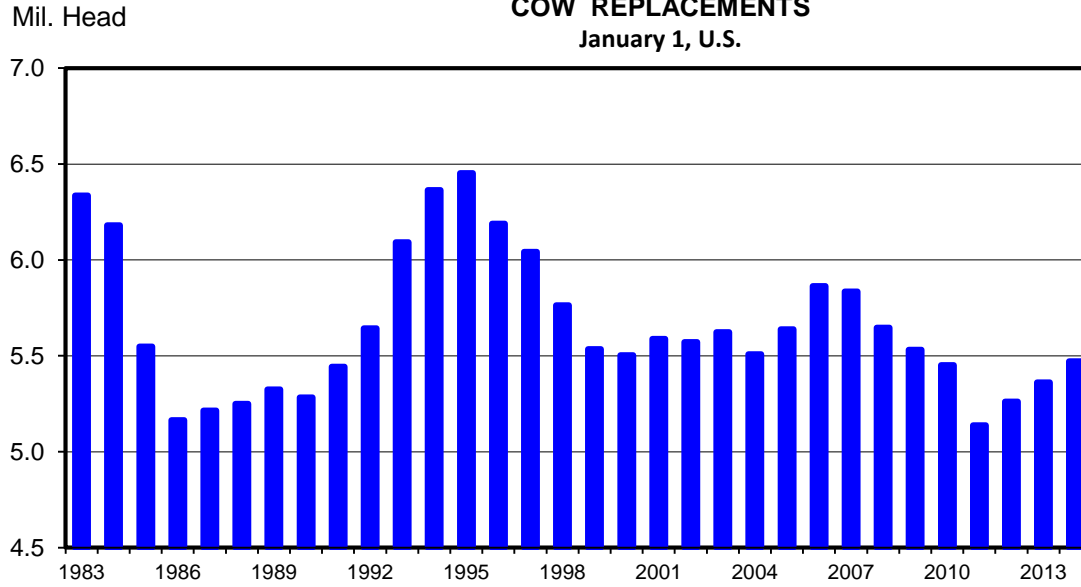
Livestock Marketing Information Center

Data Source: USDA-AMS & USDA-NASS

C-S-34  
12/27/13

### HEIFERS HELD AS BEEF COW REPLACEMENTS

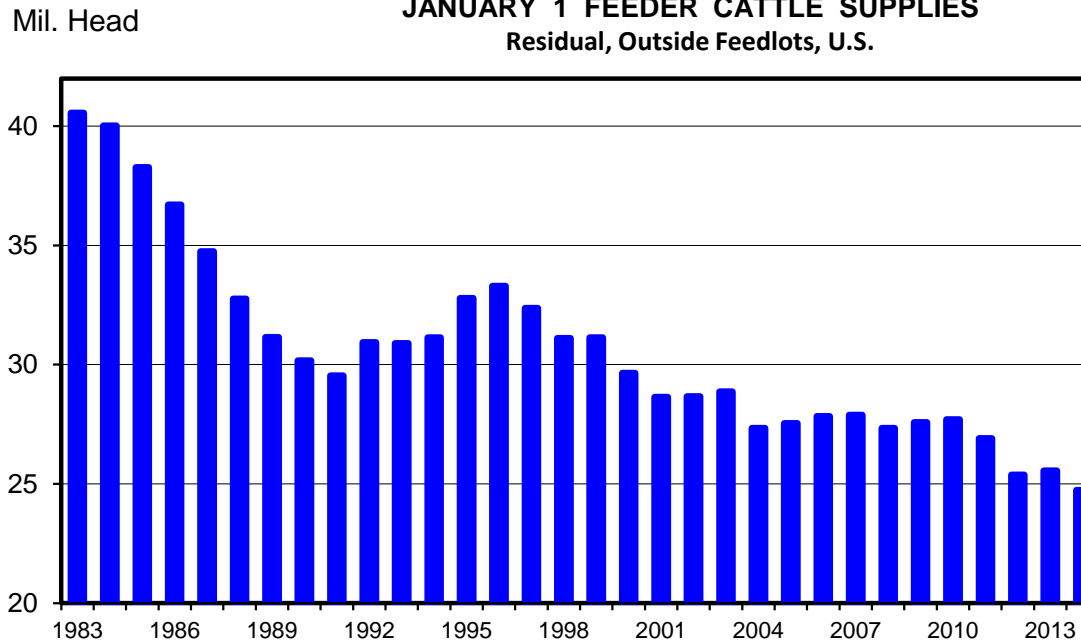
January 1, U.S.



C-N-38  
02/04/13

### JANUARY 1 FEEDER CATTLE SUPPLIES

Residual, Outside Feedlots, U.S.

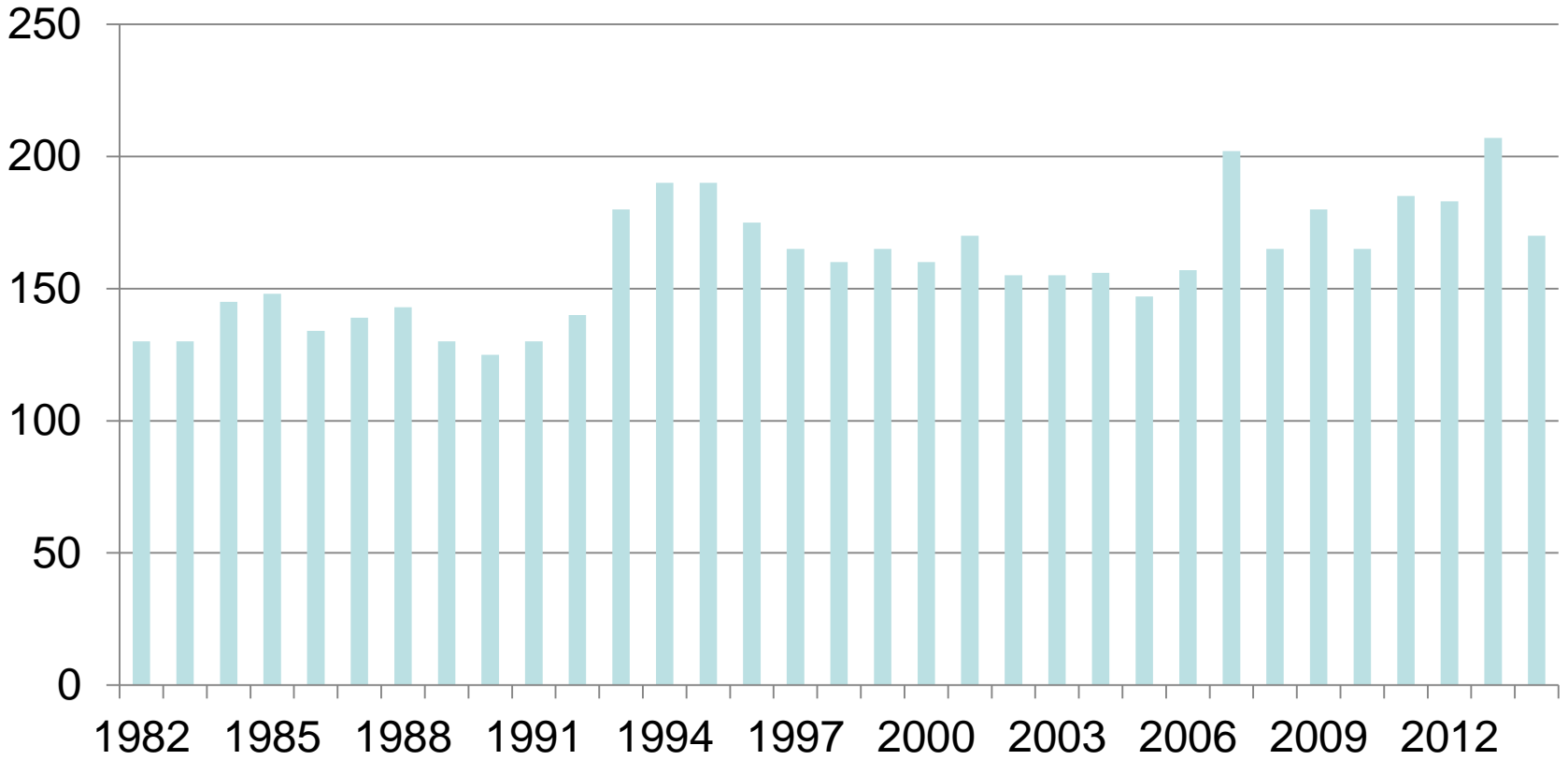


C-N-30  
02/04/13

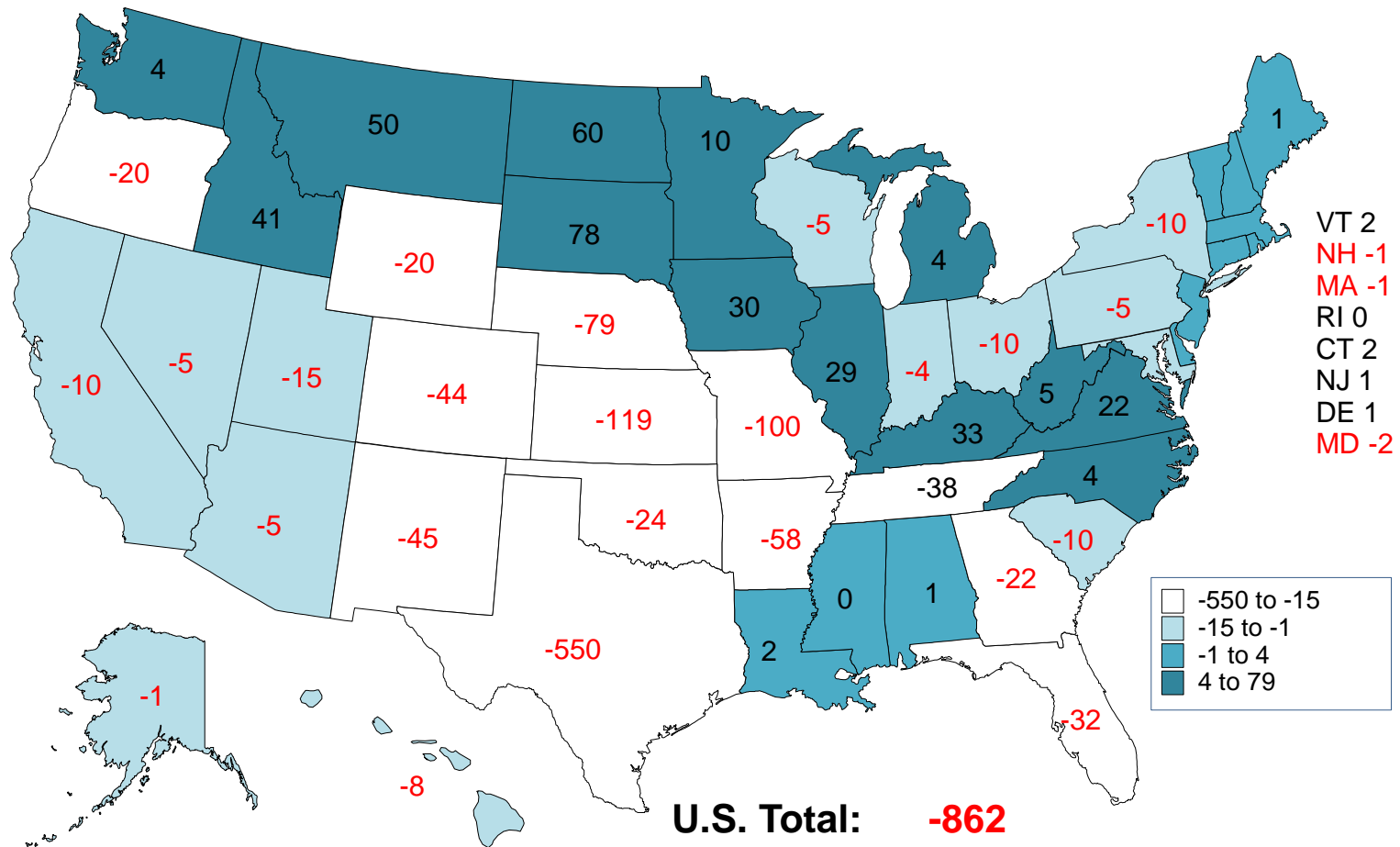
# HEIFERS HELD AS BEEF COW REPLACEMENTS

January 1, ND

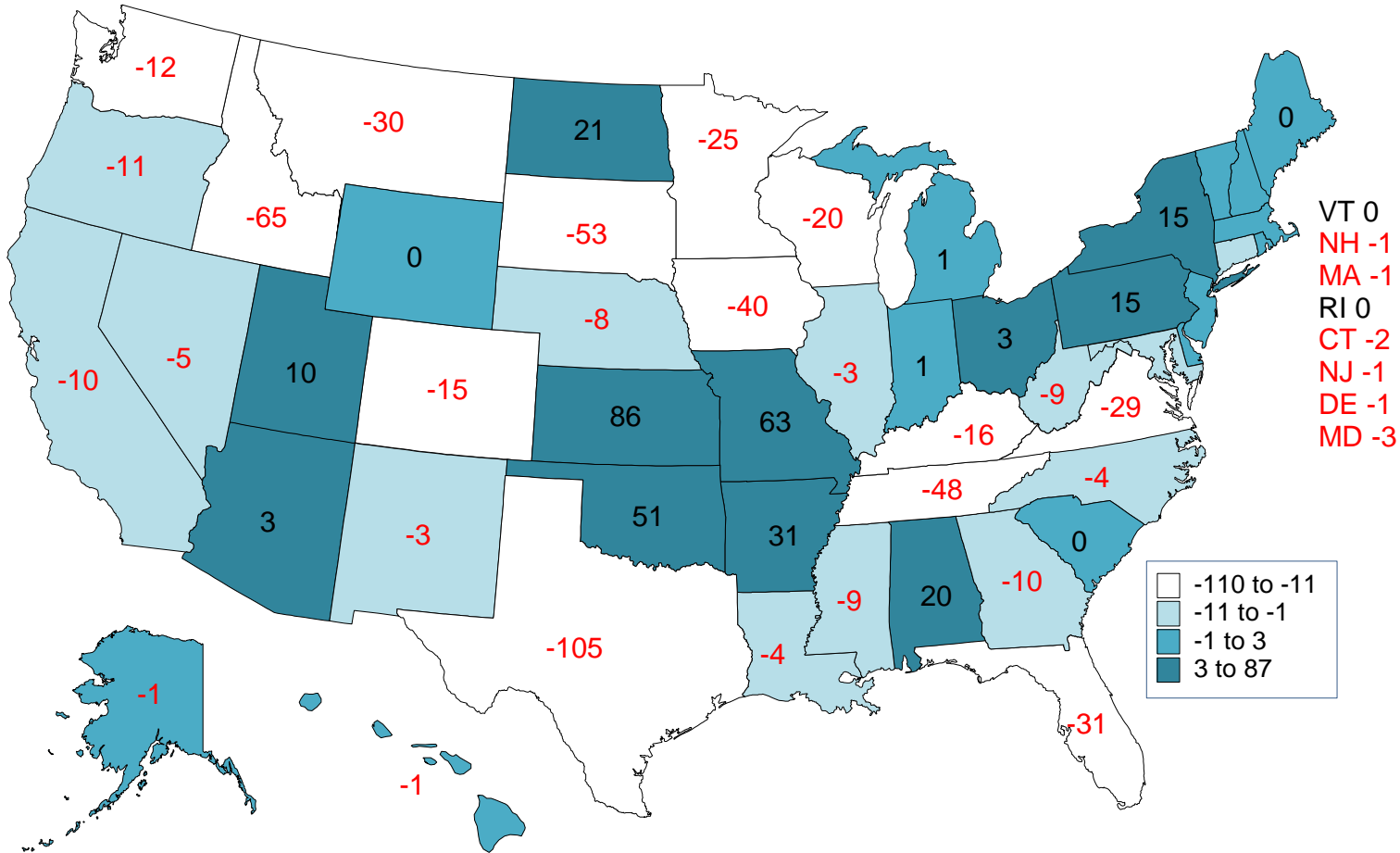
Thousand  
Head



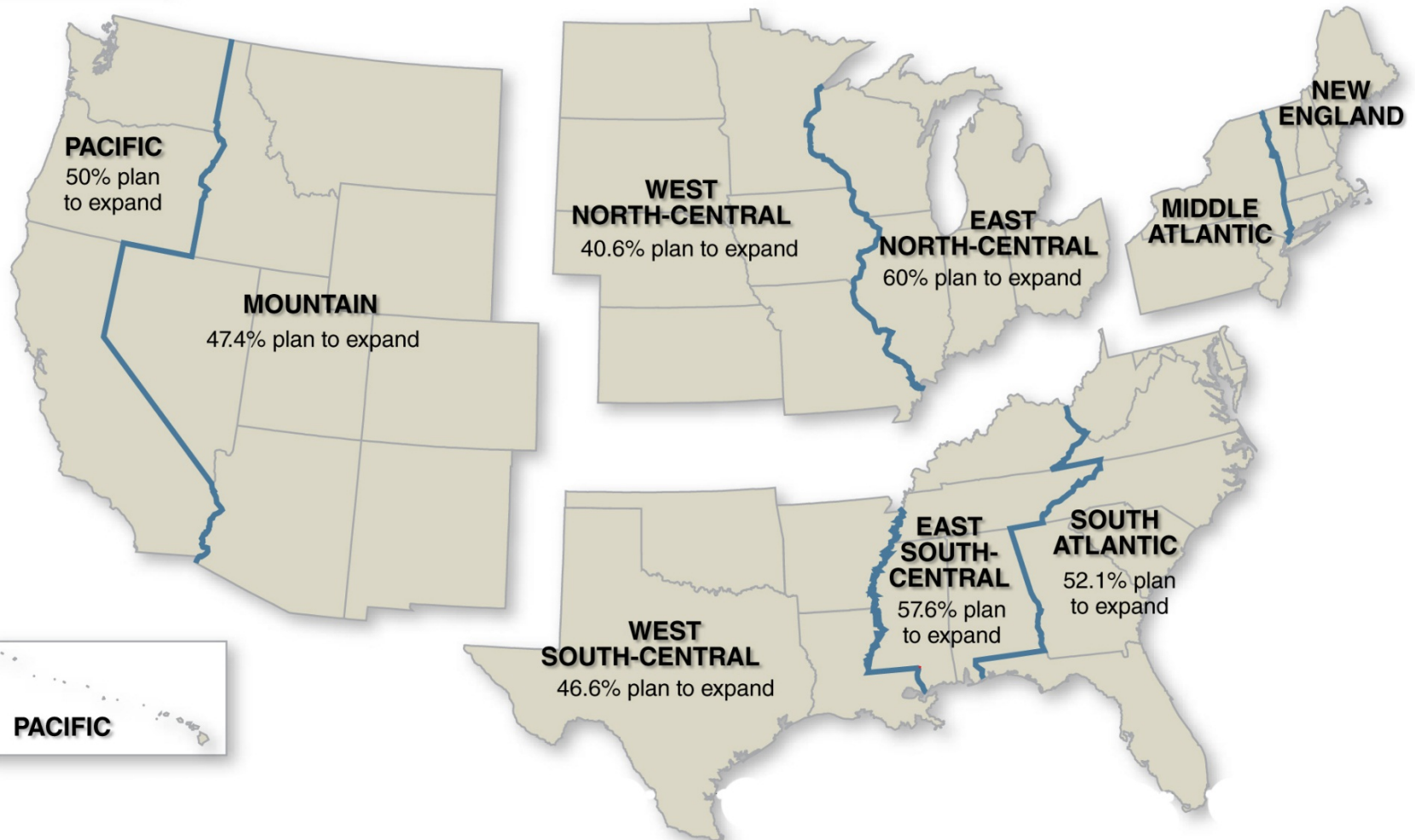
# CHANGE IN BEEF COWS NUMBERS JANUARY 1, 2012 TO JANUARY 2013 (1000 Head)



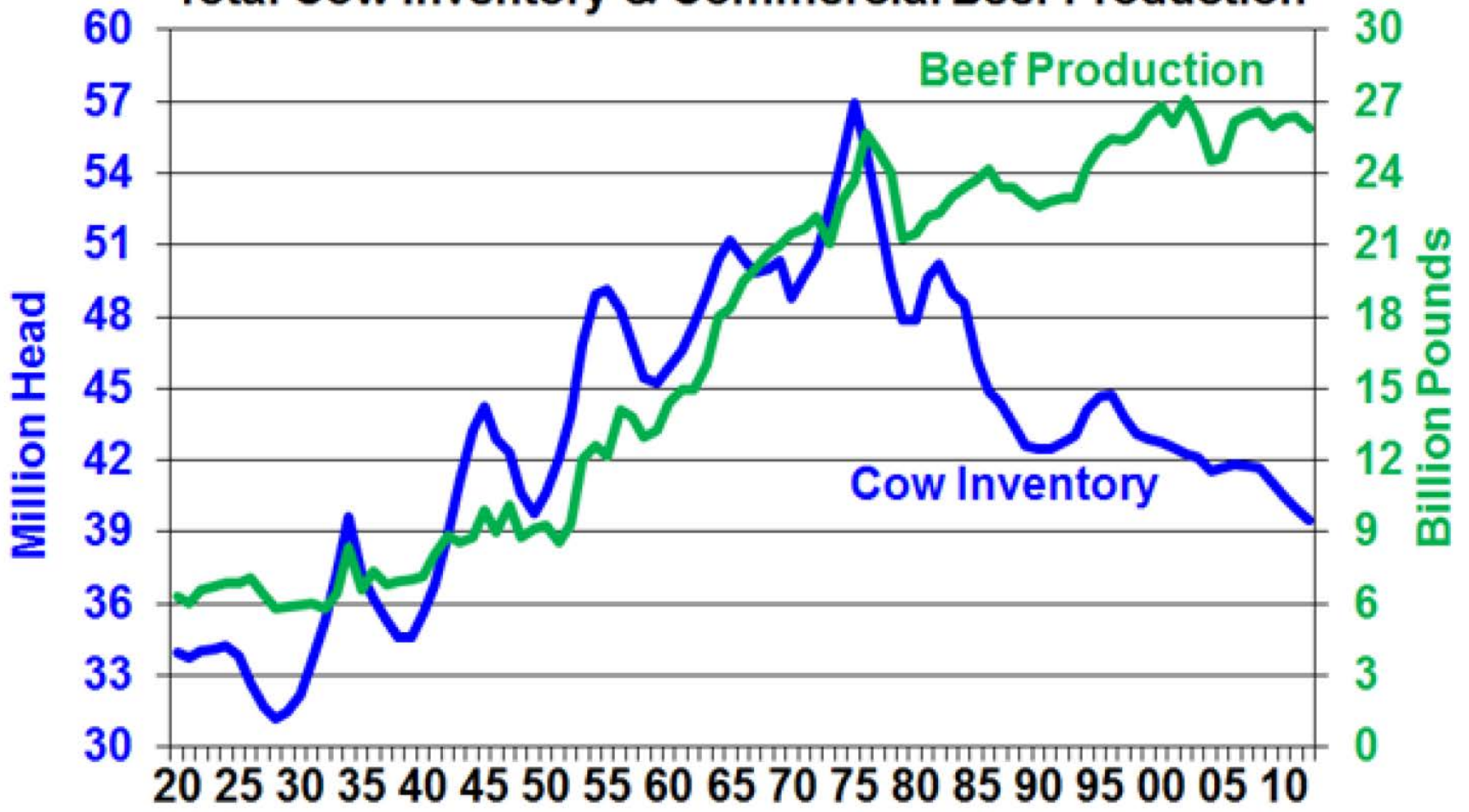
# CHANGE IN BEEF COWS NUMBERS JANUARY 1, 2013 TO JANUARY 2014 (1000 Head)



# 2013-2014 beef cow expansion plans



# Total Cow Inventory & Commercial Beef Production

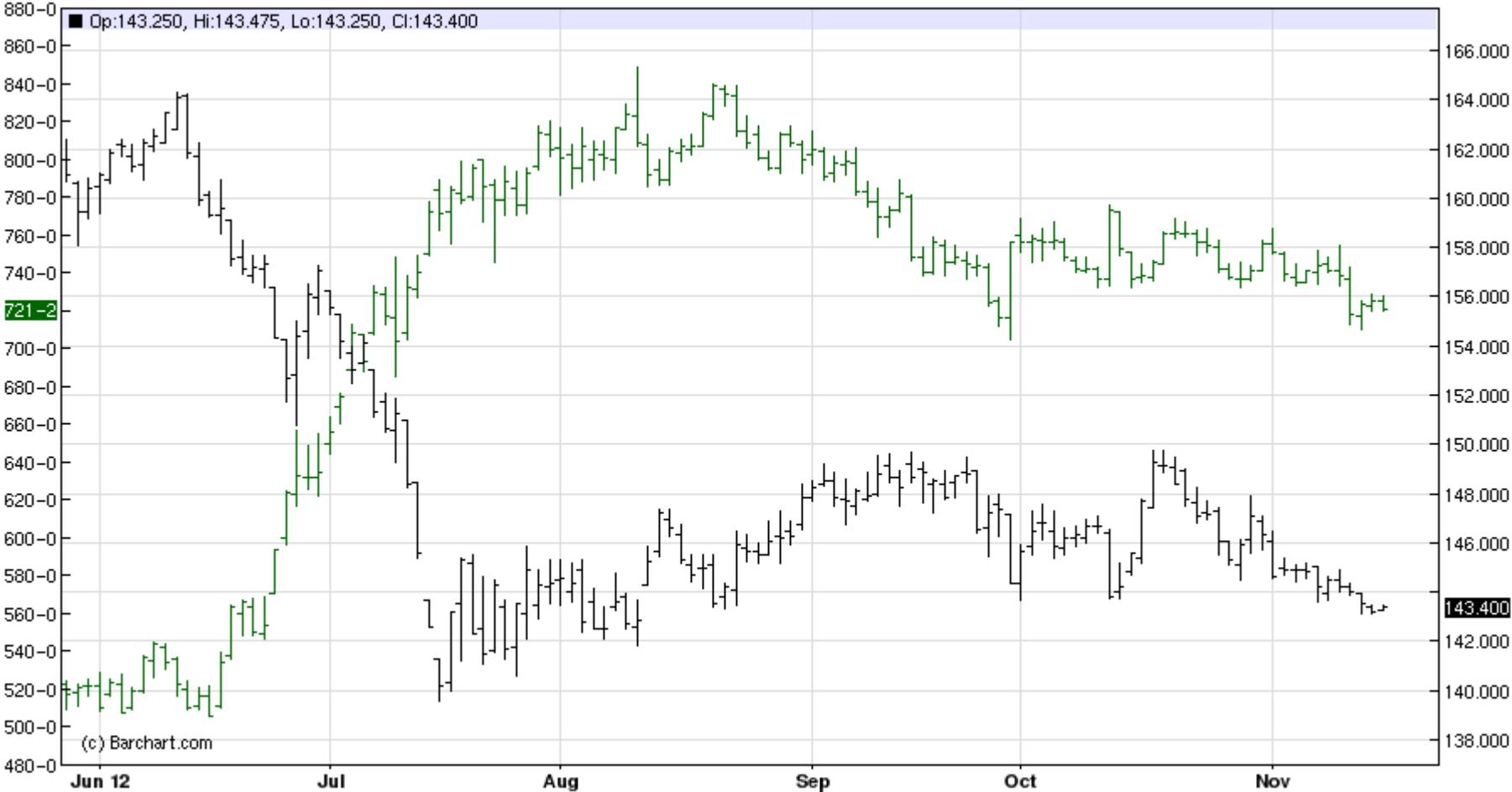


Source: USDA

YEARS

# 2012

## NOV FC vs DEC CORN





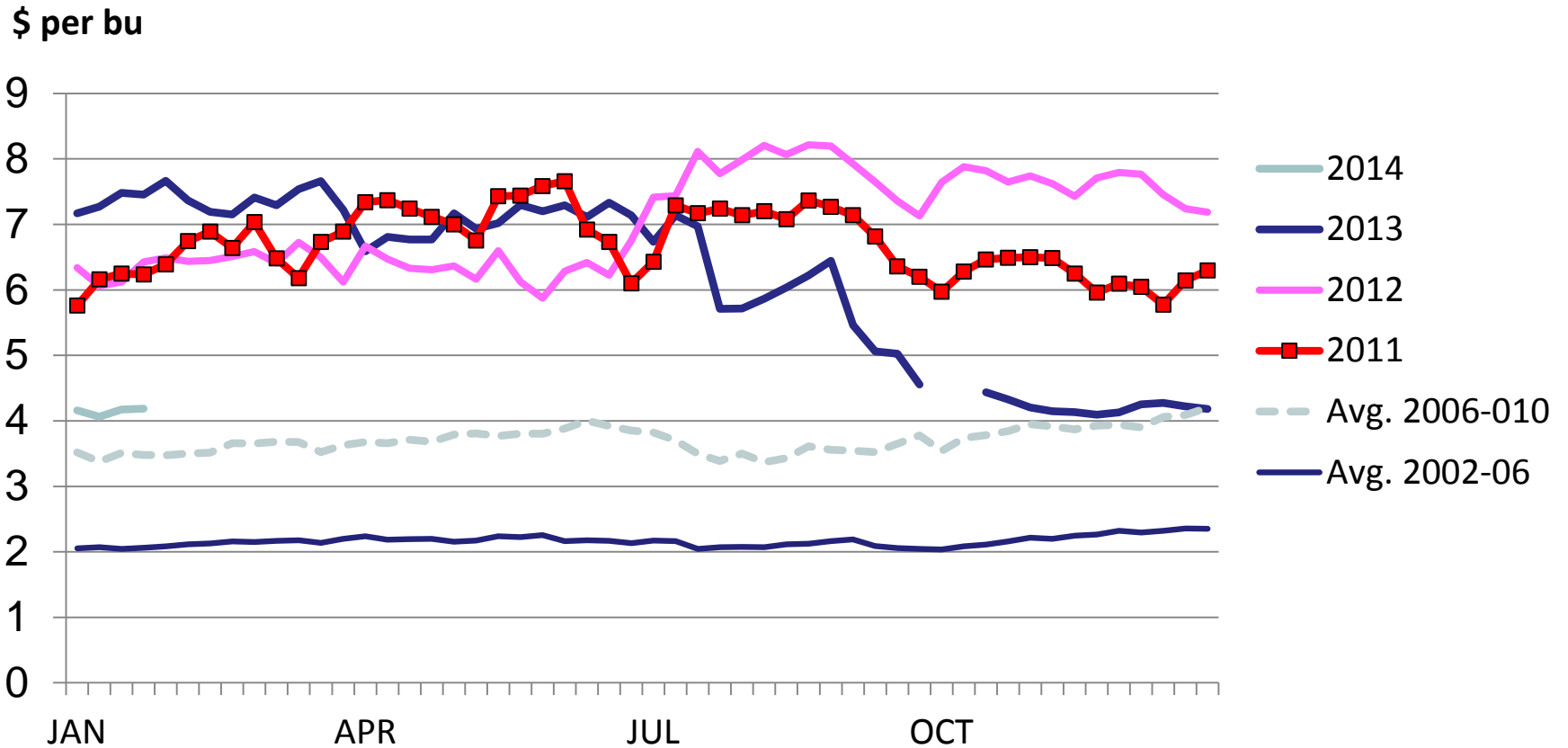
# 2013

## NOV FC vs DEC CORN



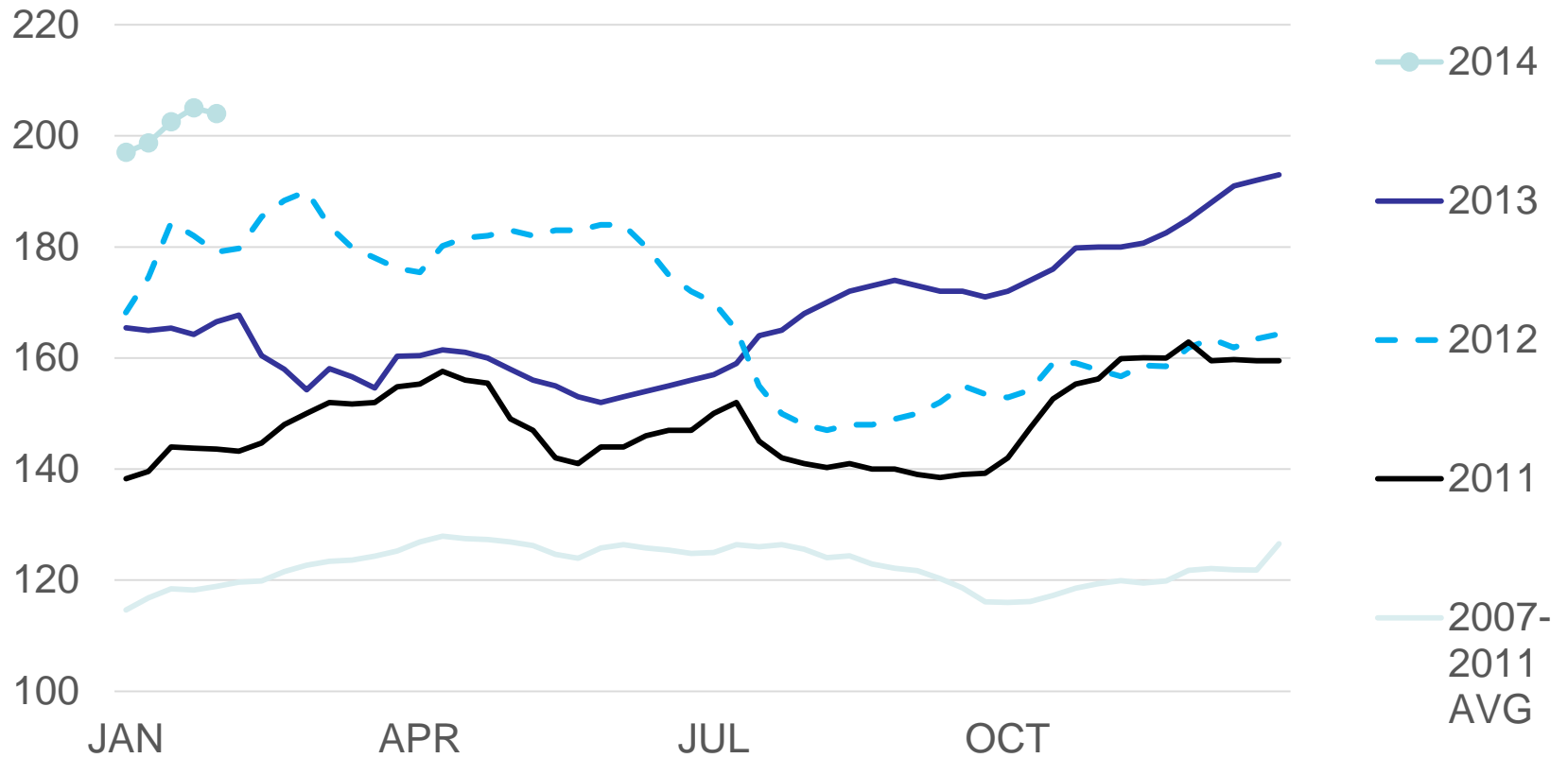
# Omaha Corn Prices

## Weekly



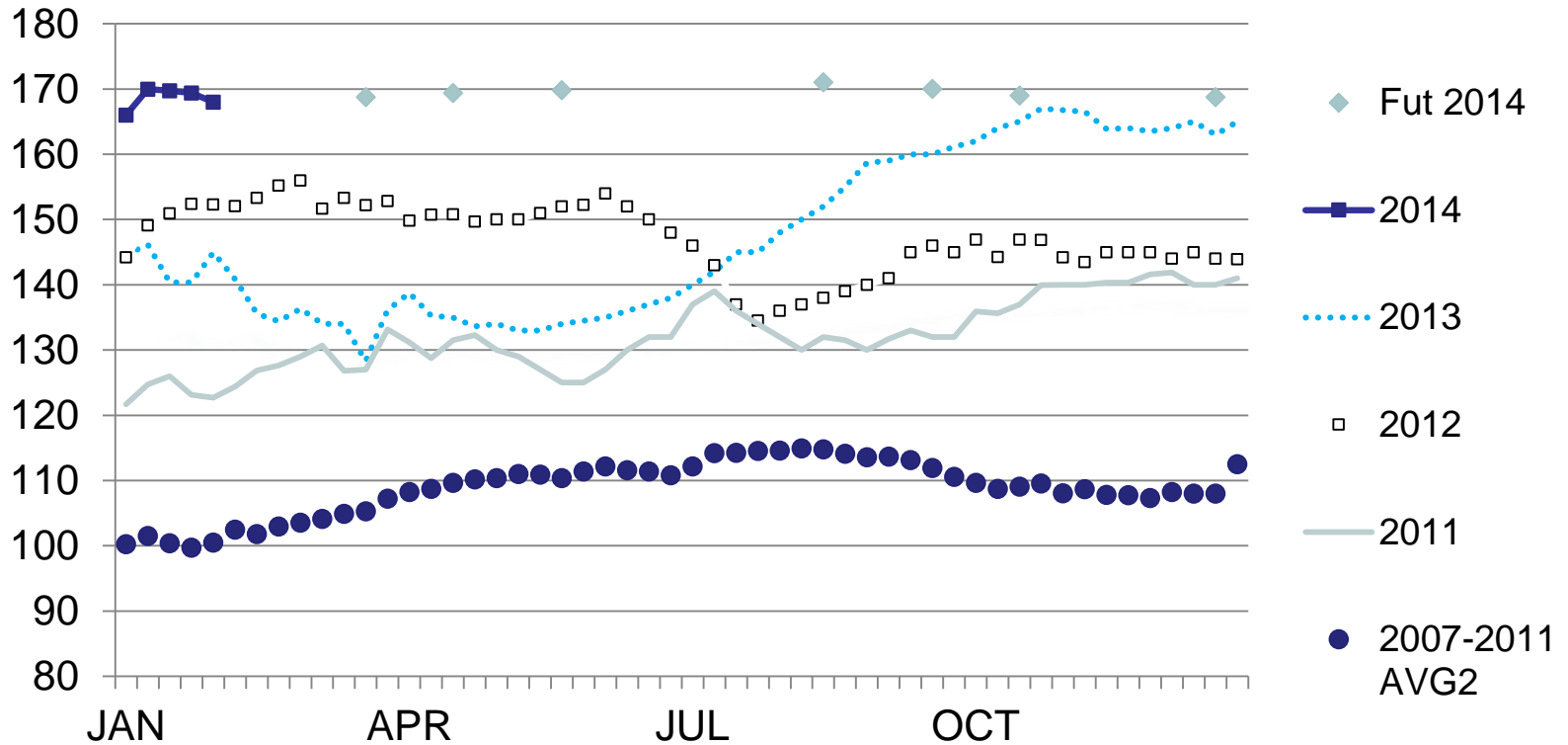
# MED. FRAME #1 STEER CALF PRICES

## 550-600 Pounds, N.D., Weekly



# MED. & LRG. #1 FEEDER STEER PRICES

## 750-800 Pounds, N.D., Weekly



SF\_LS796

Sioux Falls, SD

Fri Jan 31, 2014

USDA-ND Dept of Ag Market News

North Dakota Weekly Auction Summary - For the week ending Feb 1, 2014

Receipts: 15,996

Last Week 13,888

Last Year 7,449

Combined results of 4 auctions this week: Kist, Napoleon, Stockmens, and West Fargo.

Feeder Steers Medium and Large 1

Head	Wt Range	Avg Wt	Price Range	Avg Price	
10	278	278	264.00	264.00	
82	352-391	372	215.00-244.00	238.84	
194	403-448	440	209.00-238.00	232.39	
18	447	447	244.00	244.00	Value Added
245	452-499	480	204.00-234.00	219.82	
583	503-549	526	206.00-223.00	213.29	
846	552-599	577	195.75-216.00	204.08	
45	563-599	573	187.00-195.50	191.87	Fleshy
1031	601-646	626	187.00-201.50	194.57	
34	606	606	179.50	179.50	Calves
18	602	602	209.00	209.00	Fancy
37	649	649	183.75	183.75	Fleshy
1023	650-697	678	174.50-188.75	183.98	
15	652	652	195.00	195.00	Fancy
888	700-748	722	169.00-182.00	175.24	
854	750-797	779	162.50-173.50	168.13	
84	762-765	765	175.00-176.00	175.93	Value Added
349	801-848	831	156.00-167.75	162.89	
241	851-896	873	152.00-164.75	162.03	
62	901-911	904	149.00-157.50	155.58	
7	981	981	153.00	153.00	

SF\_LS796

Sioux Falls, SD

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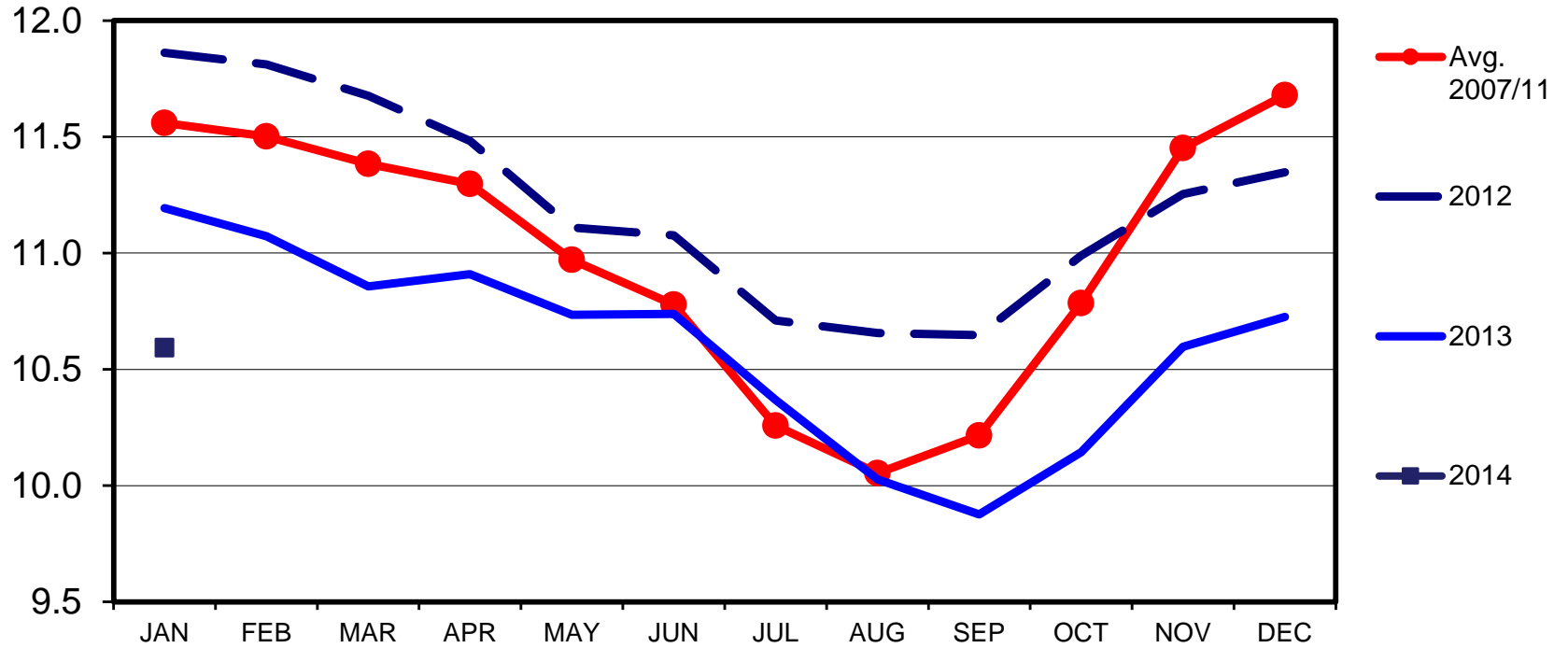
Feeder Heifers Medium and Large 1

Head	Wt Range	Avg Wt	Price Range	Avg Price	
45	313-337	323	209.00-233.00	222.61	
53	367-379	373	210.00-223.00	217.54	
119	421-448	435	189.00-209.00	200.54	
21	425	425	214.00	214.00	Thin Fleshed
398	451-499	477	182.00-203.00	194.68	
666	501-549	527	180.00-203.00	192.20	
724	550-597	573	177.00-193.00	184.48	
42	572	572	170.00	170.00	Fleshy
499	600-647	622	164.00-182.00	174.15	
44	618	618	181.50	181.50	Replacement
349	651-697	673	162.50-174.25	167.54	
29	689	689	155.50	155.50	Fleshy
185	702-745	714	156.00-170.00	161.81	
40	723	723	155.75	155.75	Fleshy
209	750-794	775	152.00-162.00	157.56	
163	801-836	818	142.00-155.50	153.22	
5	831	831	141.00	141.00	Fleshy

# CATTLE ON FEED

## US Total, Monthly

Mil. Head



Livestock Marketing Information Center

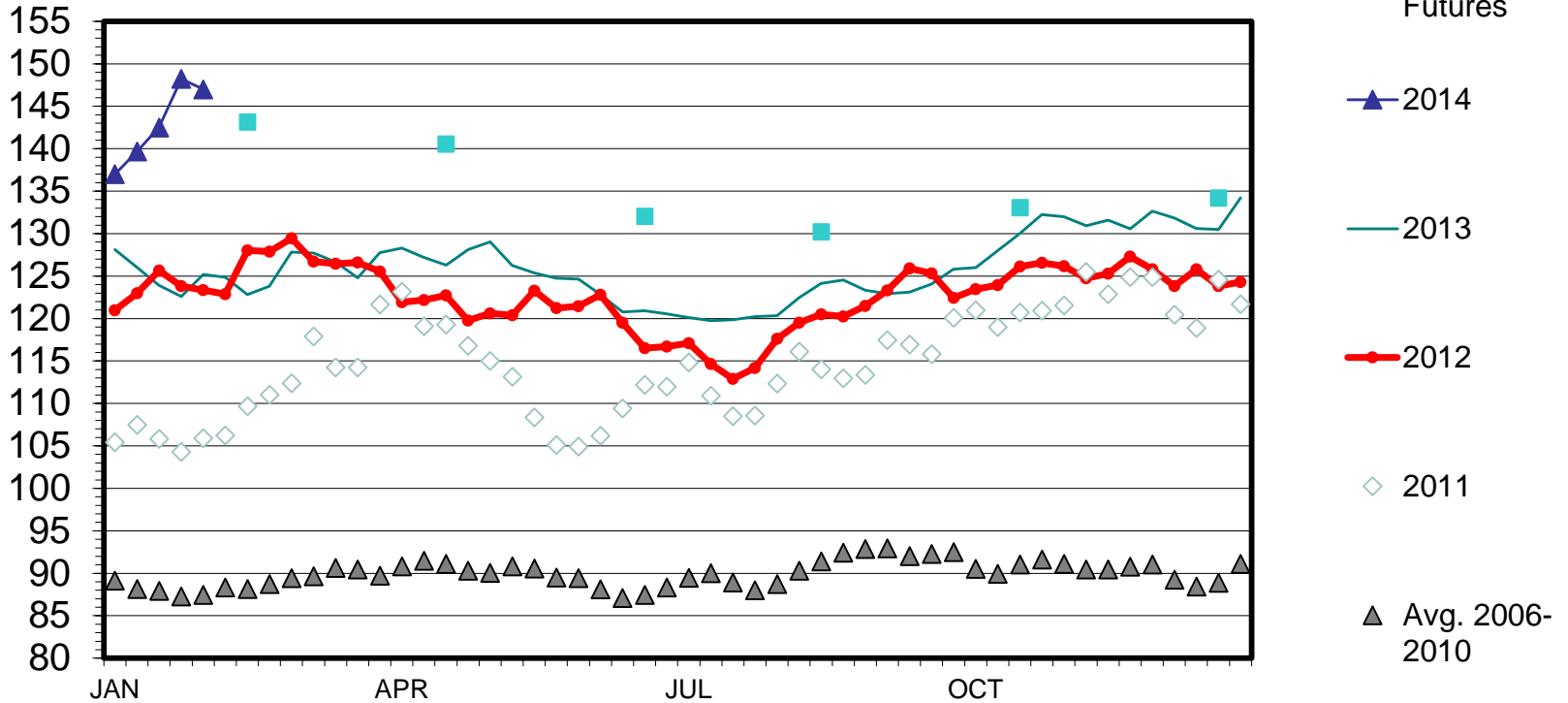
Data Source: USDA-NASS

C-N-10  
01/24/14

# SLAUGHTER STEER PRICES

## 5 Market Weighted Average, Weekly

\$ Per Cwt.



Livestock Marketing Information Center

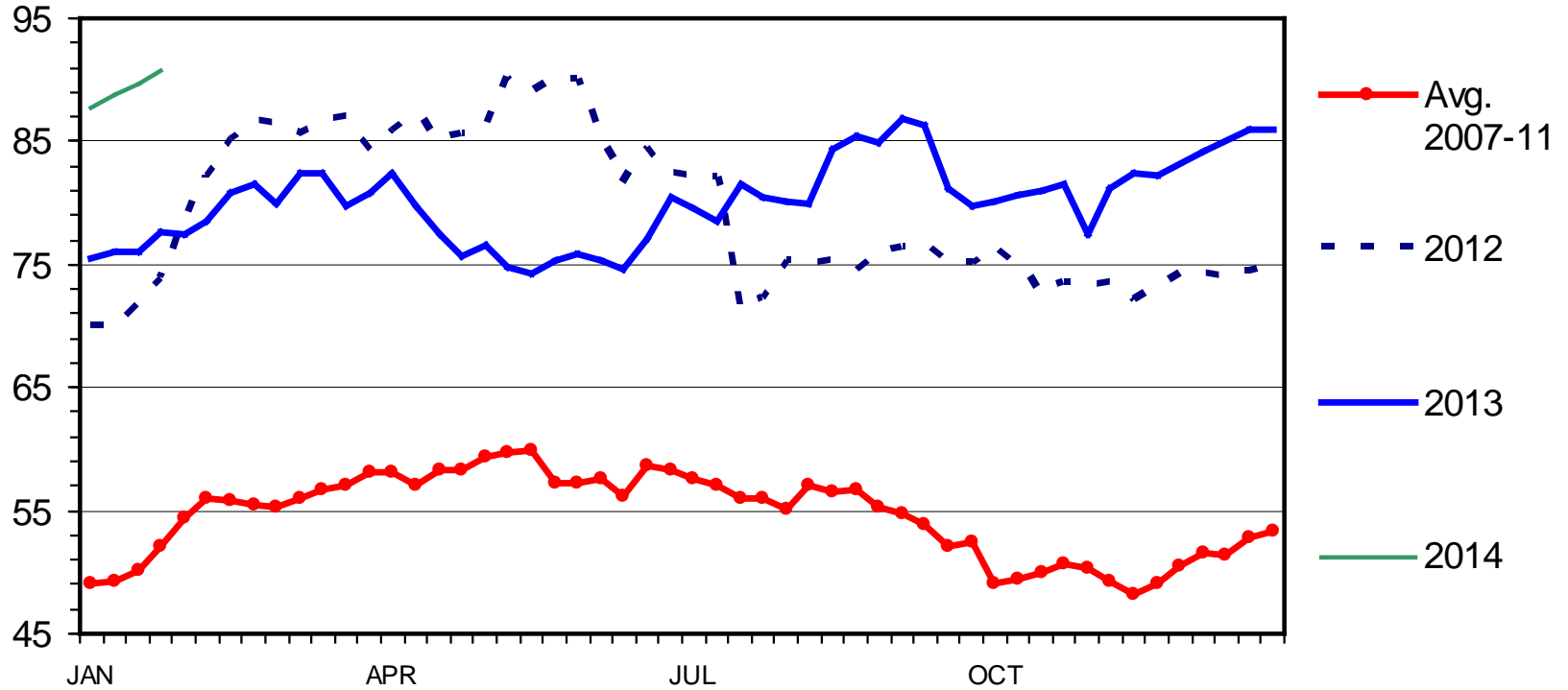
Data Source: USDA-AMS



# Slaughter Cow Prices

85-90% Lean, Weekly

\$ Per Cwt.

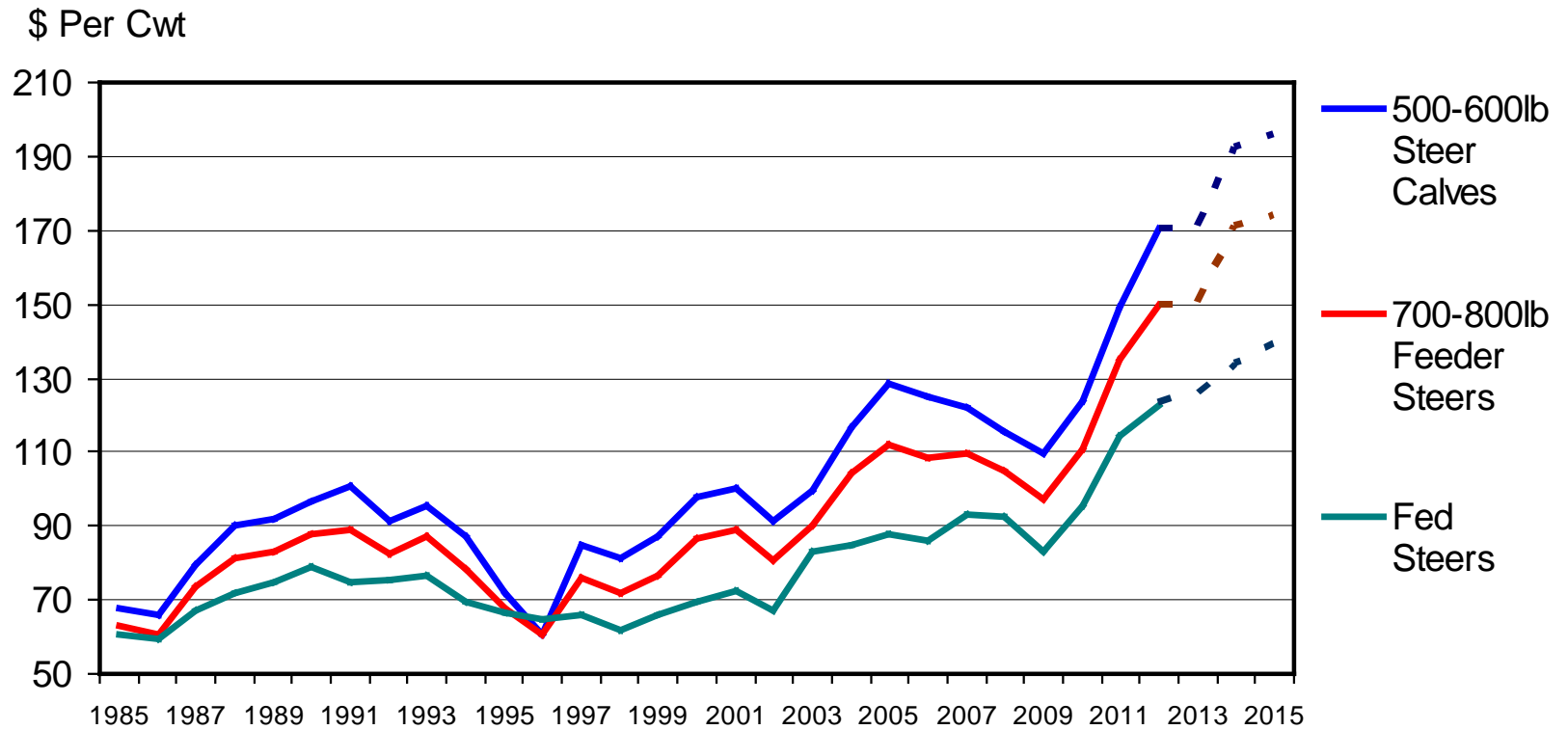


Livestock Marketing Information Center

Data Source: USDA-AMS

C-P-35  
01/27/14

# ANNUAL AVERAGE CATTLE PRICES



Livestock Marketing Information Center

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

C-P-06  
11/26/13

## Historic and Projected Planning Prices for North Dakota Beef

<b>Year</b>	<b>400-500 lb. Steers</b>	<b>500-600 lb. Steers</b>	<b>600-700 lb. Steers</b>	<b>700-800 lb. Steers</b>	<b>800-900 lb. Steers</b>	<b>1,100- 1,700 lb. Cull Cows</b>	<b>5-Area Direct Slaughter Steers</b>
2012 Prediction	175.00	160.00	152.00	146.00	141.00	75.00	125.00
2012 Actual	176.66	162.78	152.78	140.58	132.71	76.70	97.00
2013 Prediction	180.00	166.00	156.00	153.00	148.00	81.00	129.00
2013 Actual	205.43	183.90	174.19	?	?	77.17	126.33
2014 Prediction	207.00	186.00	176.00	169.00	163.00	84.00	132.00

# End of Rainbow for the Next Several Years



Questions?