Fundamental Shifts Impacting U.S. Agriculture

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Game Changers

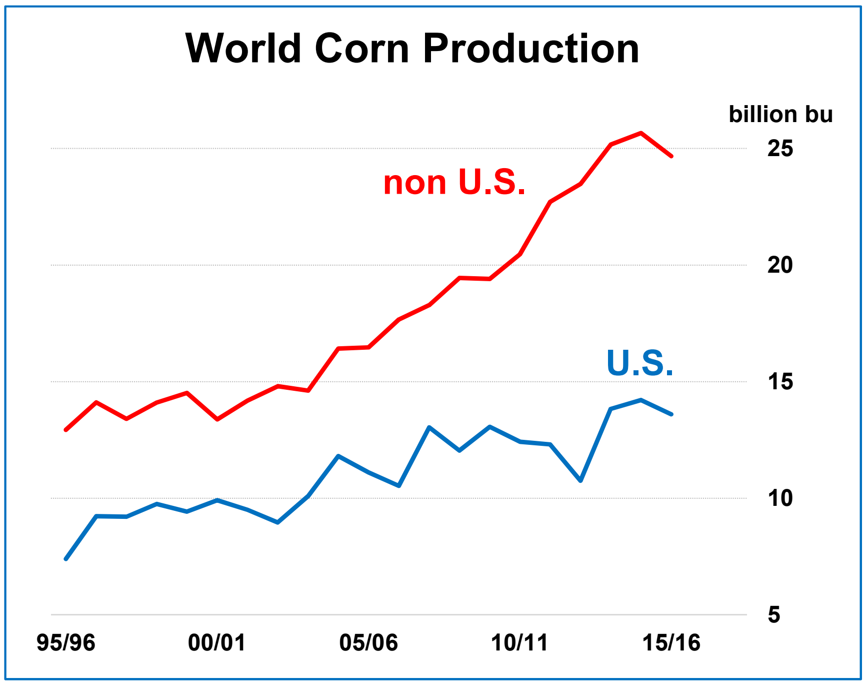
3 fundamental shifts → Long term Impact

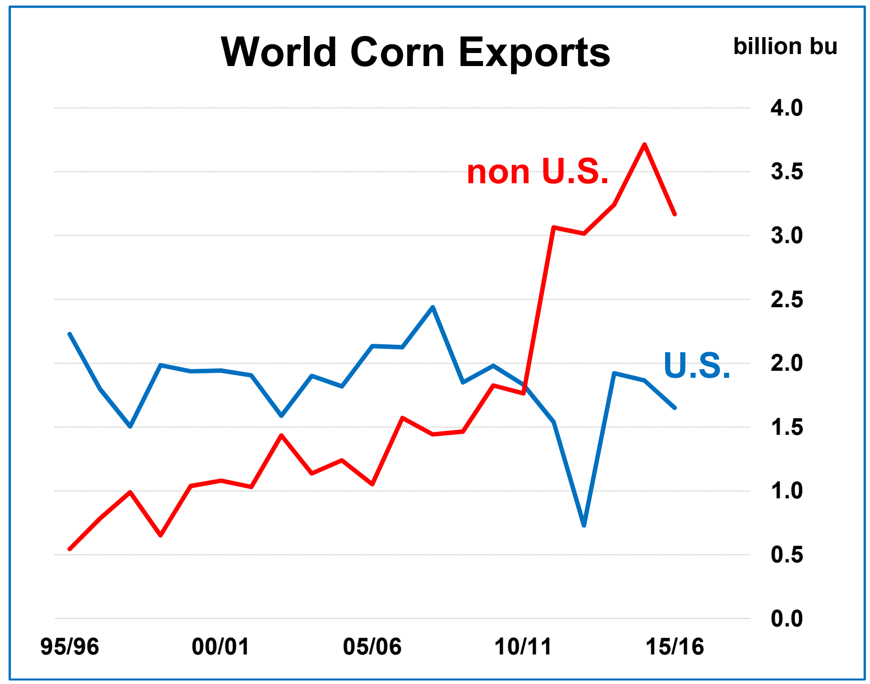
1

$2 cotton in 2011… industry will never be the same.

$8.00 corn in 2012

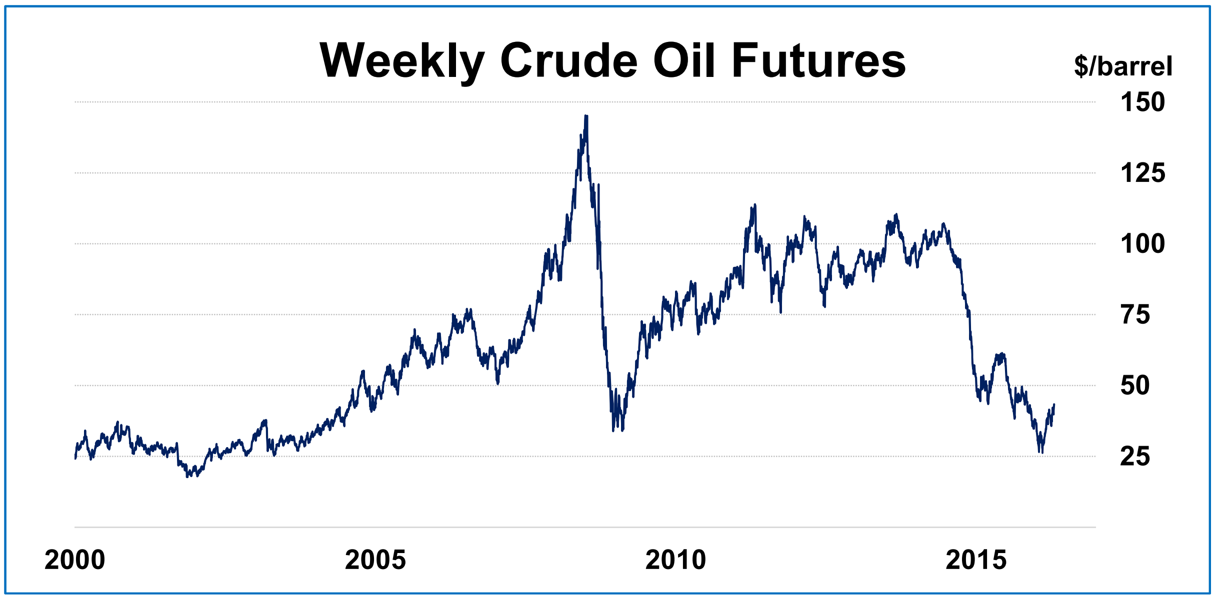
Research → yield and drought resistant



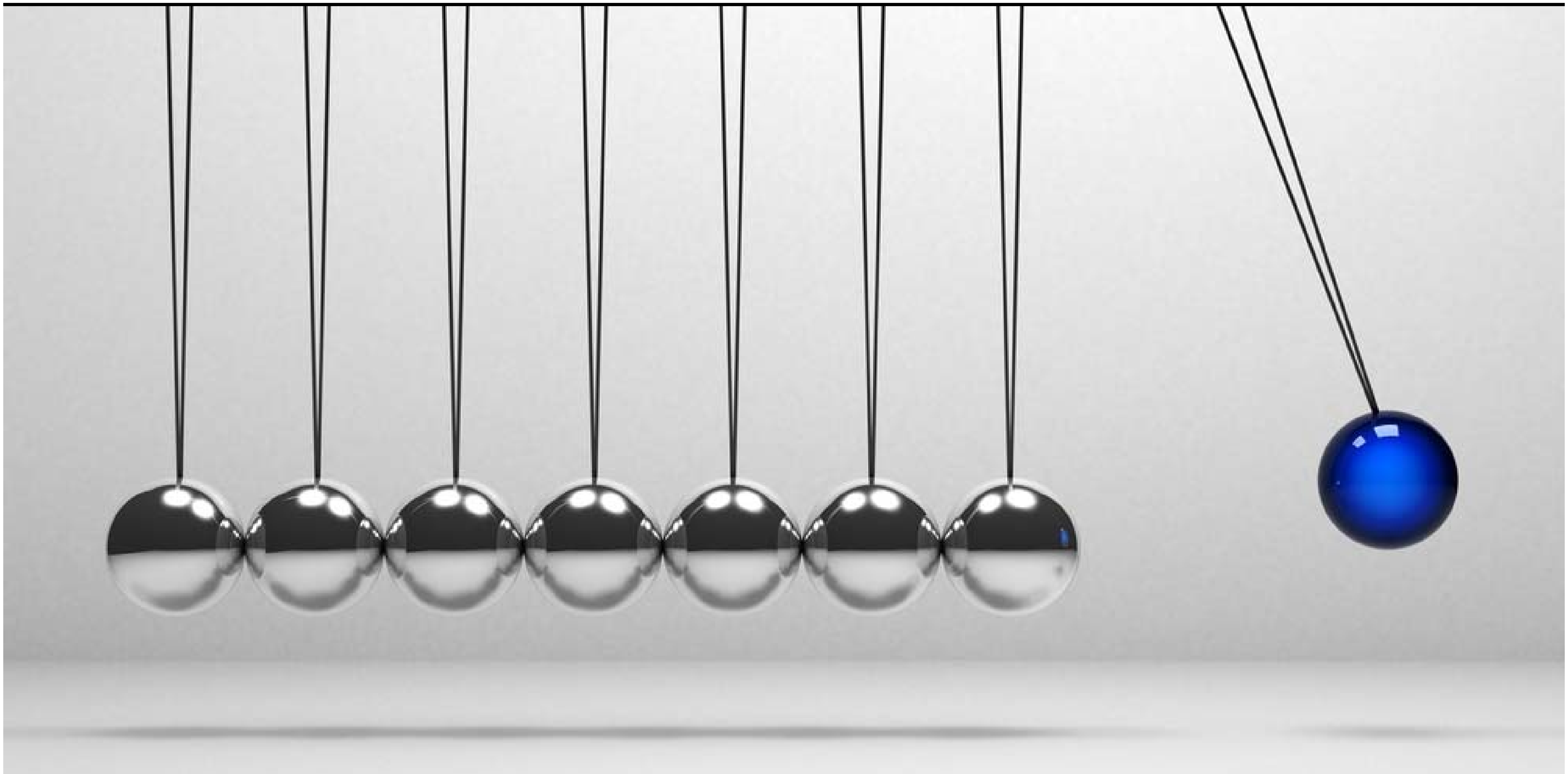


Oil price collapse

- Fracking changed the world … low oil prices for a long time period.
  - OPEC Collapse



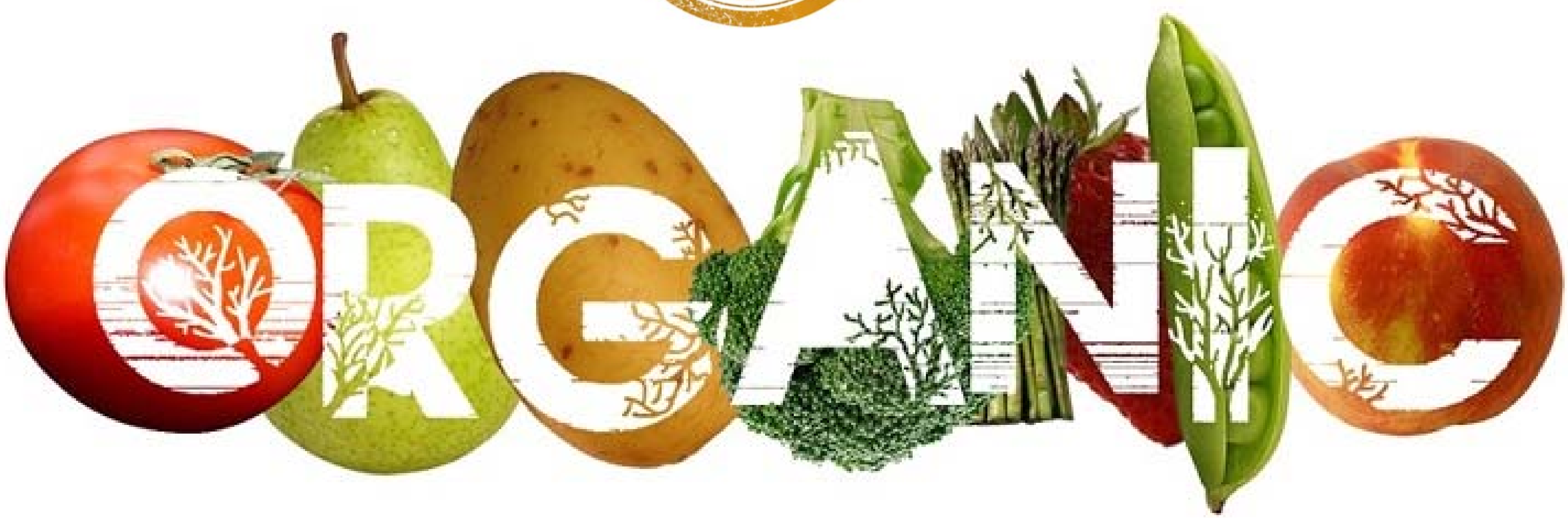
Other market impacts



Technology Transfer to Asia

Water Availability

Consumer Demand Shift

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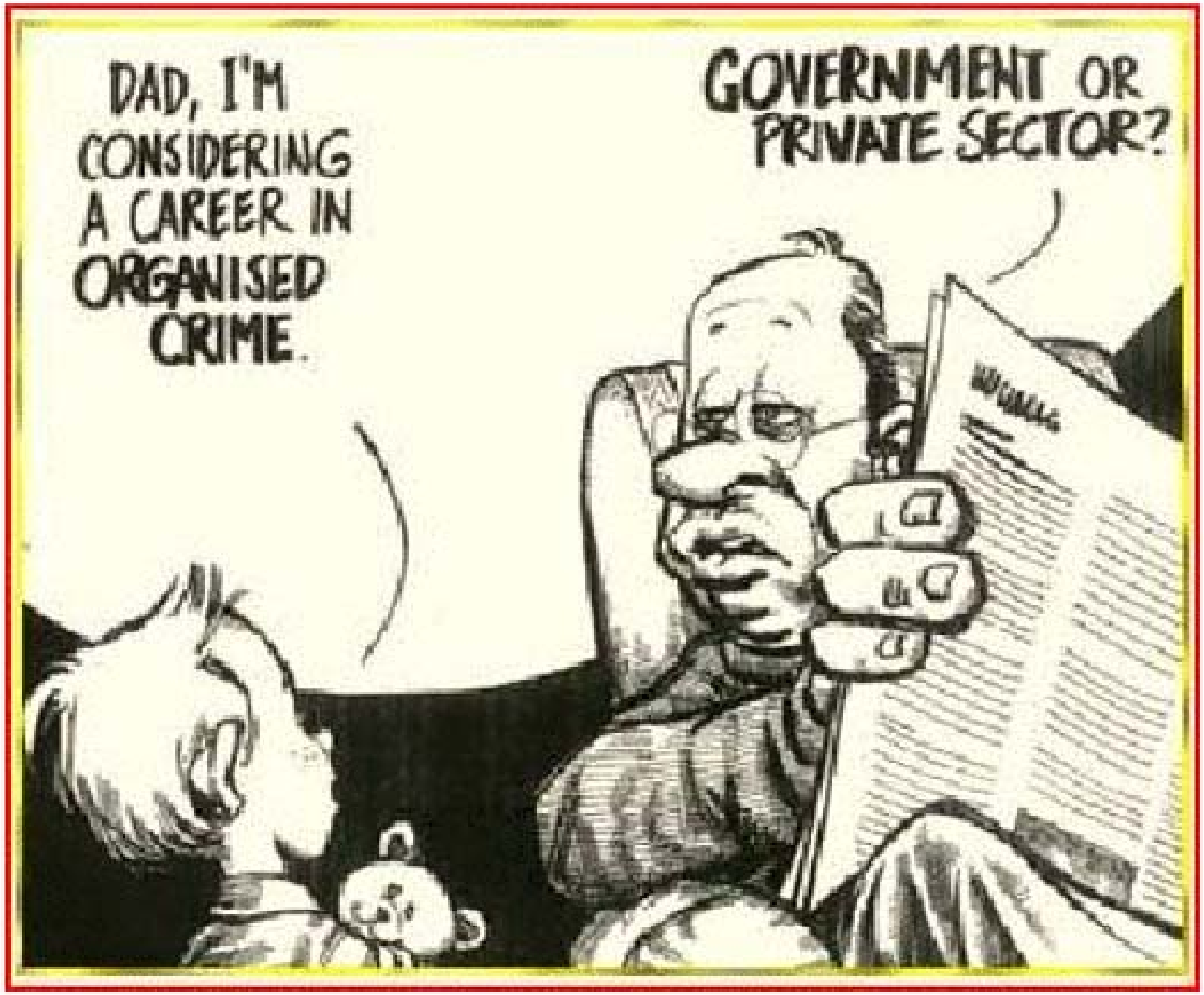
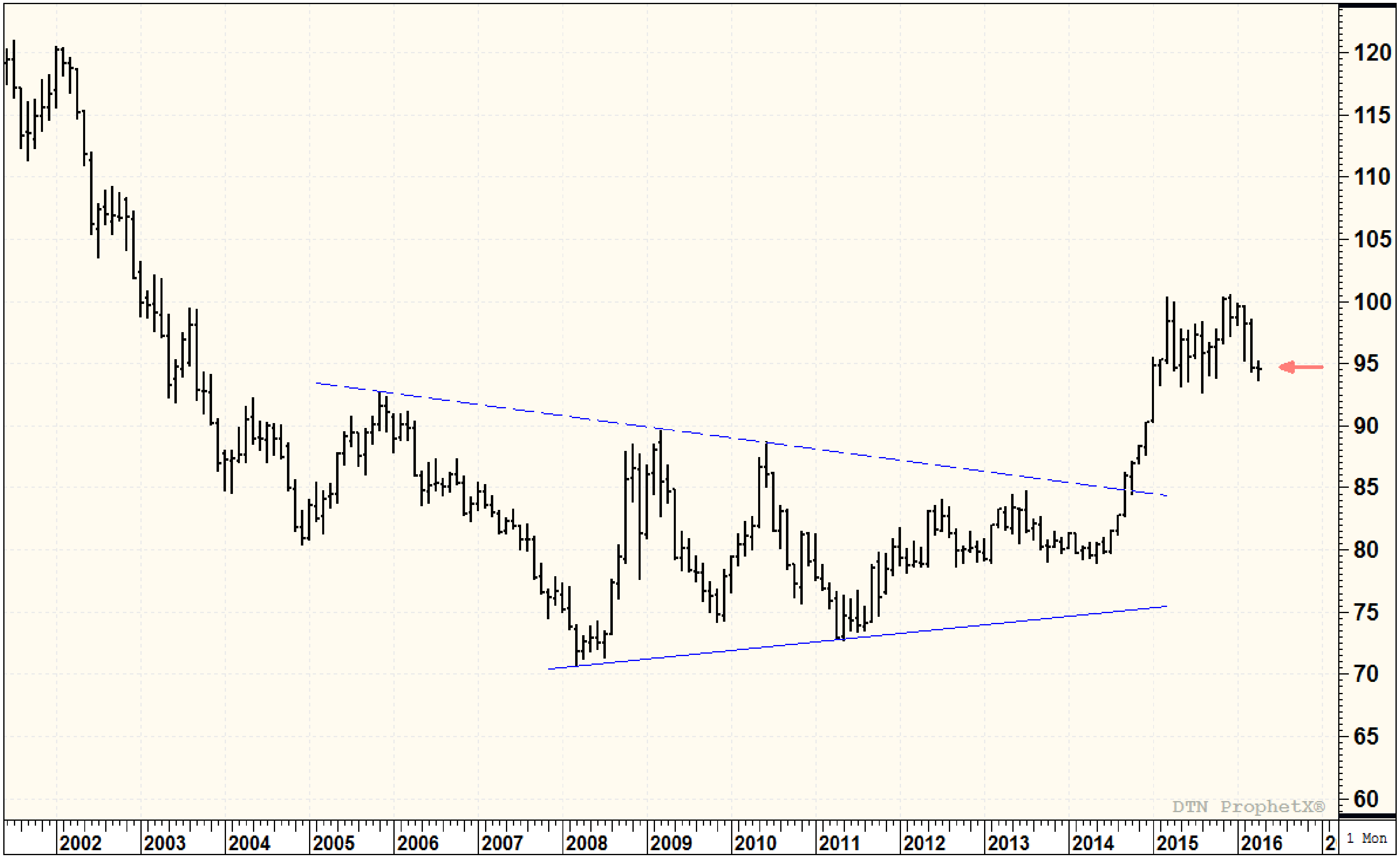
General Economy & Outside Markets



I personally would suggest government.

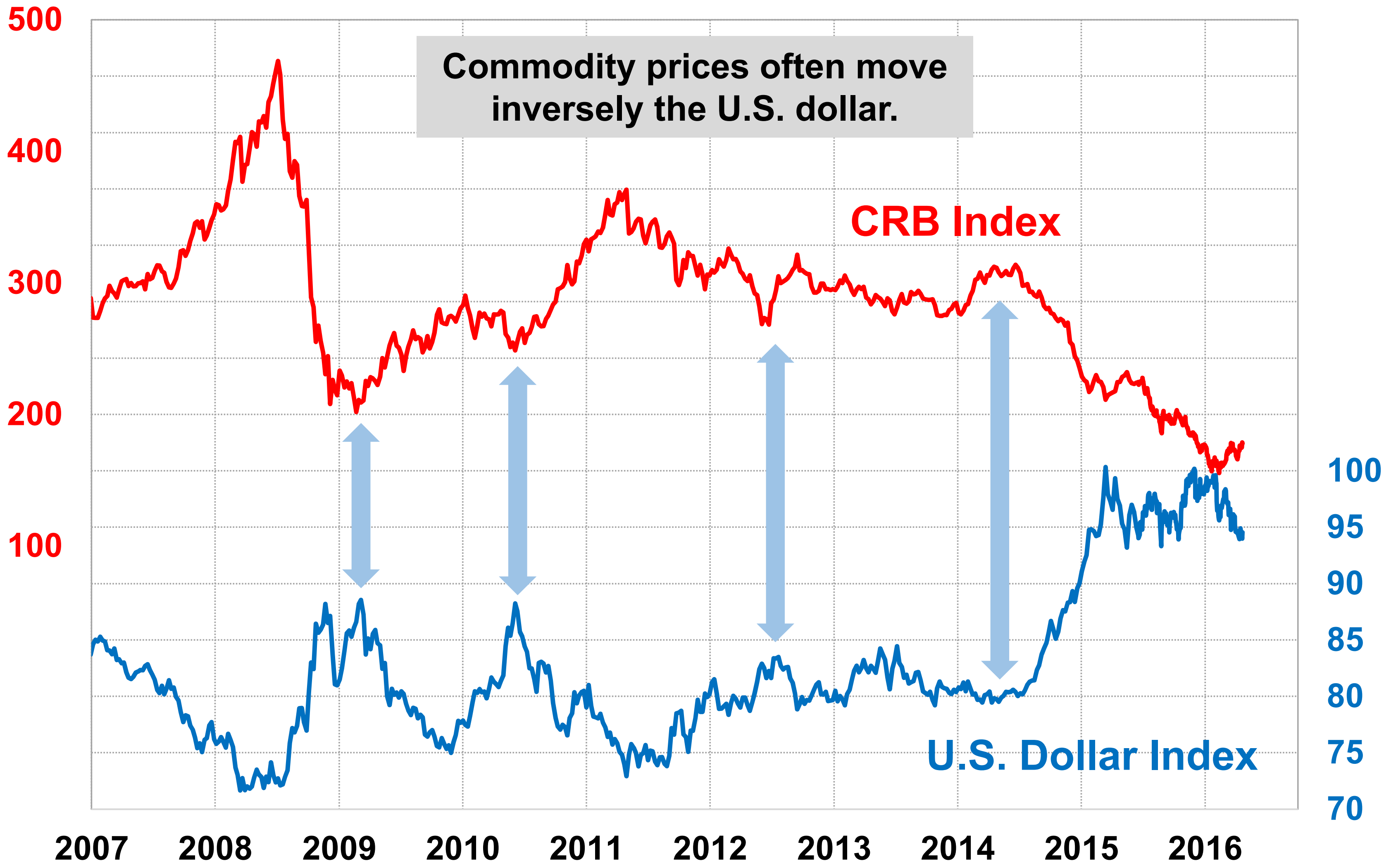
They never go to jail

U.S. Dollar Index



U.S. Dollars per Brazilian Real

CRB Index vs. U.S. Dollar Index



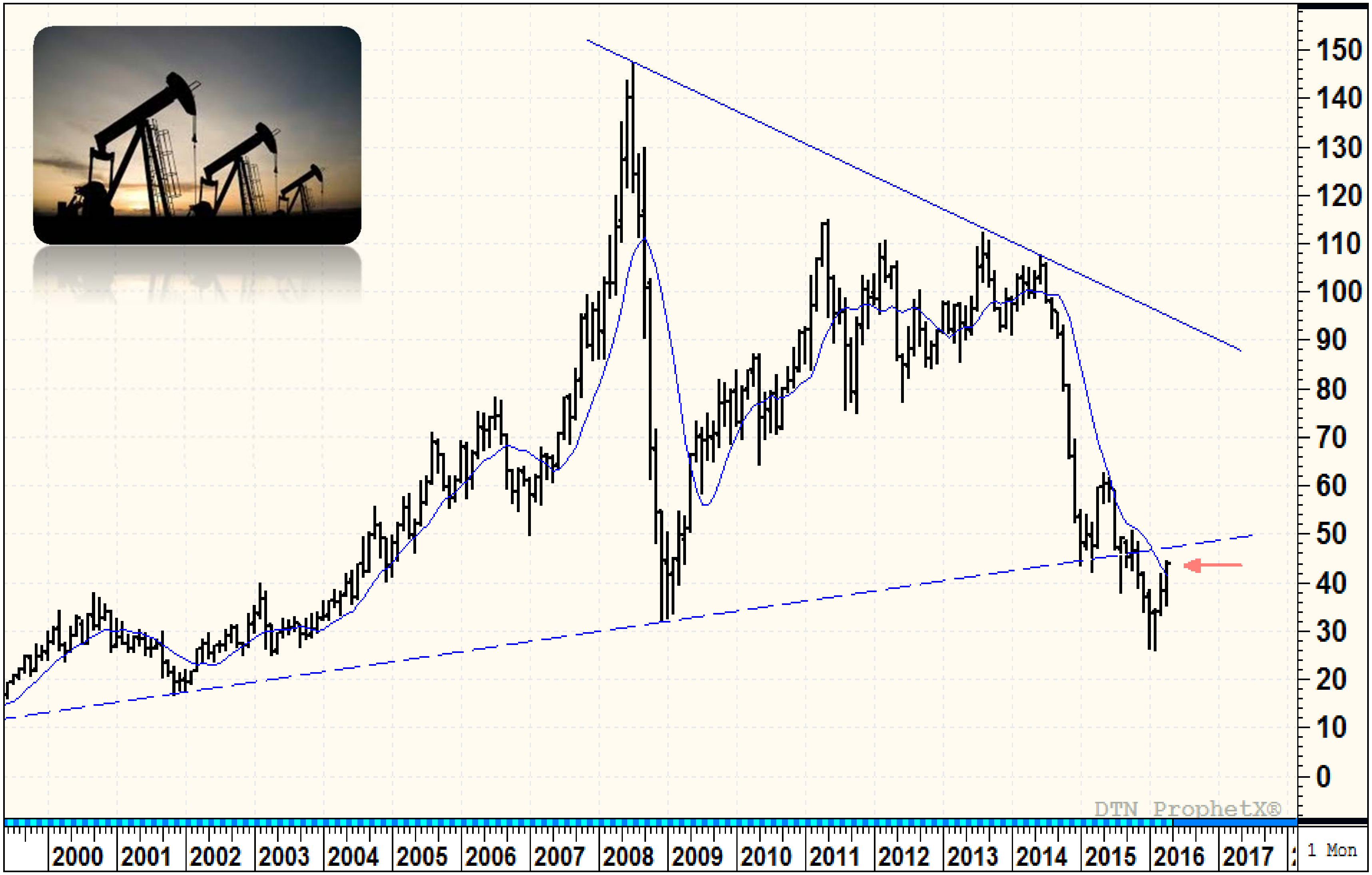

UNLEADED
1.39 9
DIESEL
1.89 9
Speedway


$1.39
AQUAFINA WTR
$1.39
AQUAFINA WTR
$1.39
AQUAFINA WTR
$1.39
AQUAFINA WTR
$1.29
DASANI WTR

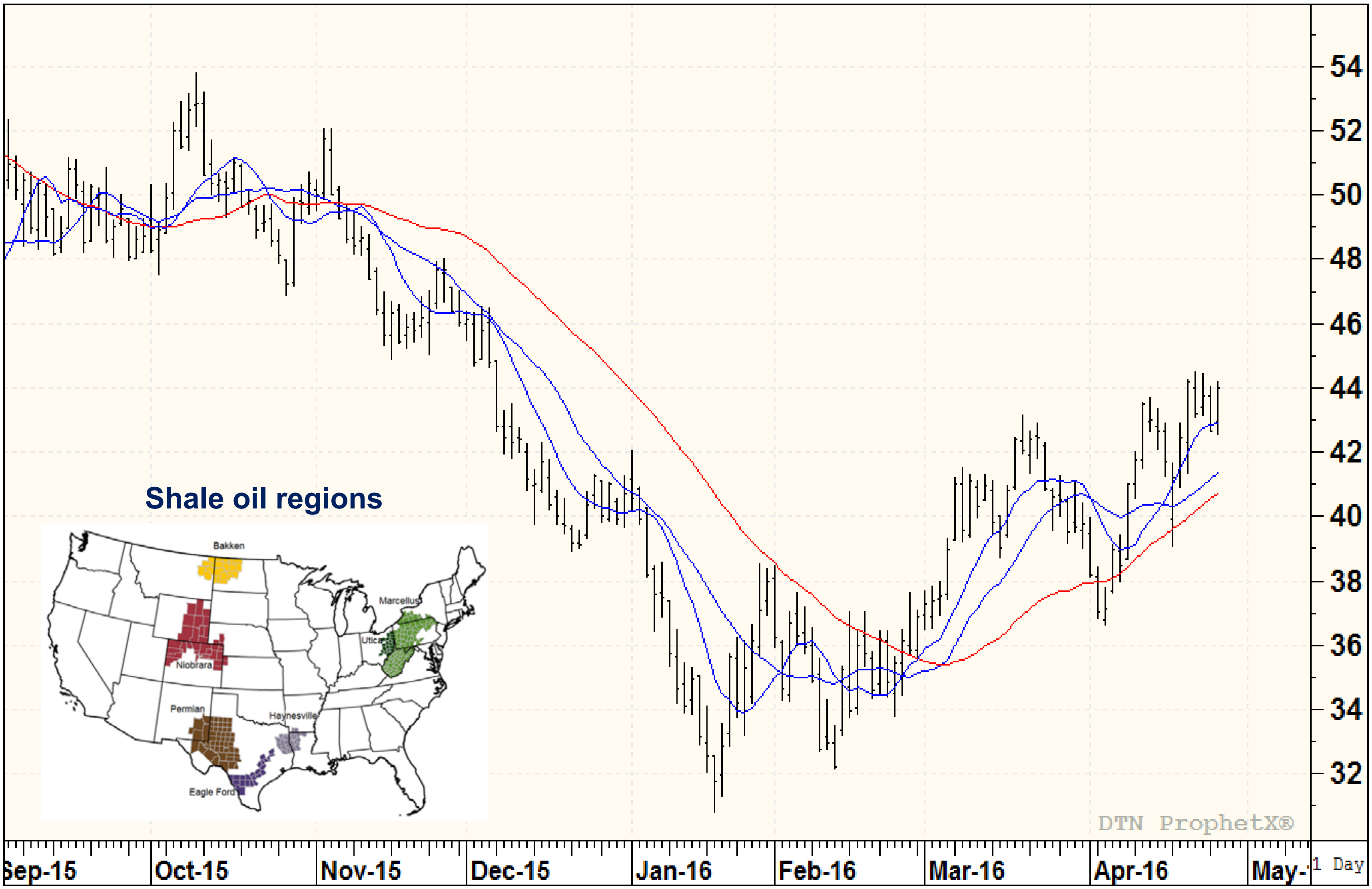
Water @ $1.39/20 oz. bottle = $8.90/gal

Water is 6.4 times more expensive than gasoline!

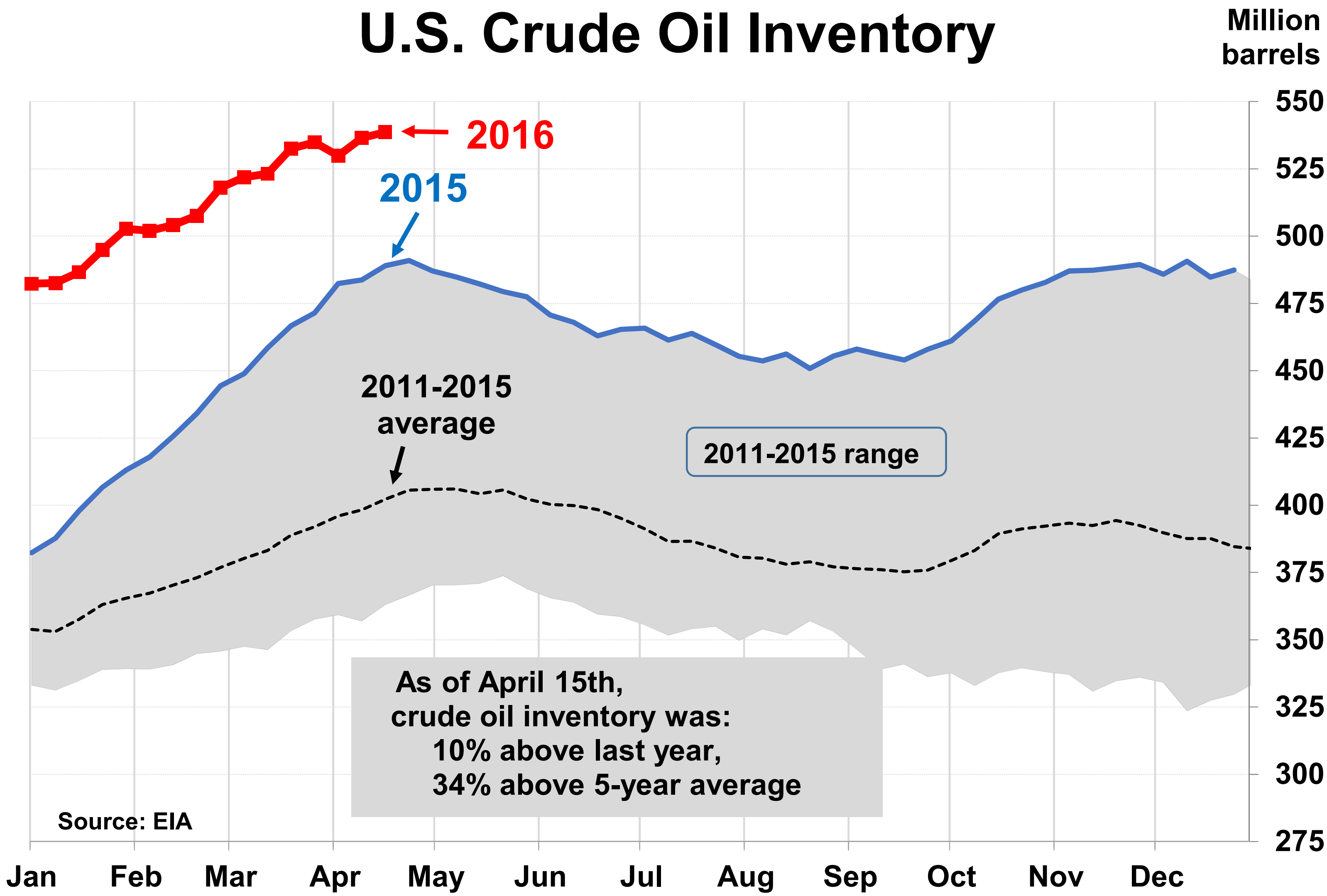
Crude Oil, monthly continuous



June 2016 Crude Oil

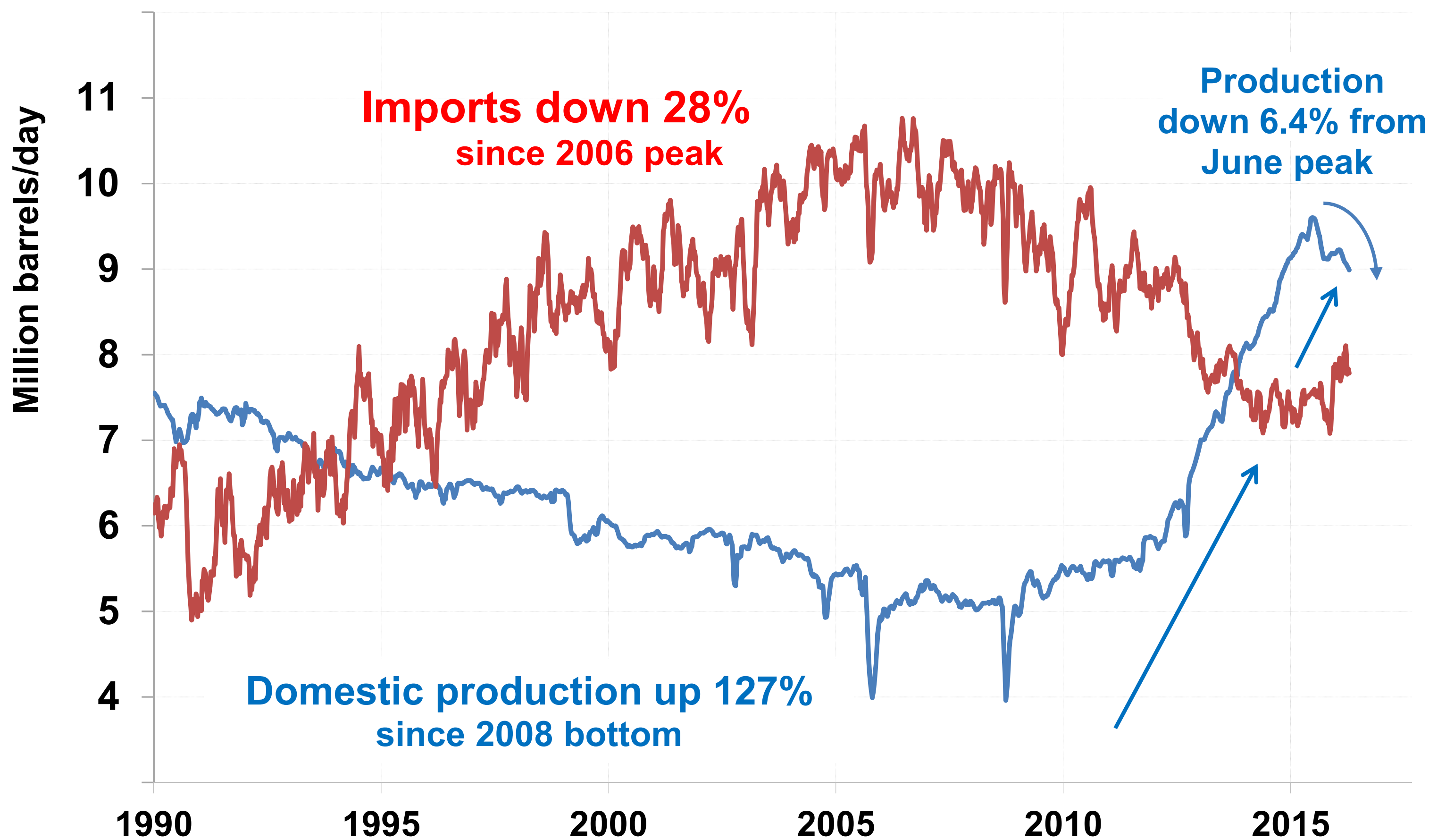


U.S. Crude Oil Inventory



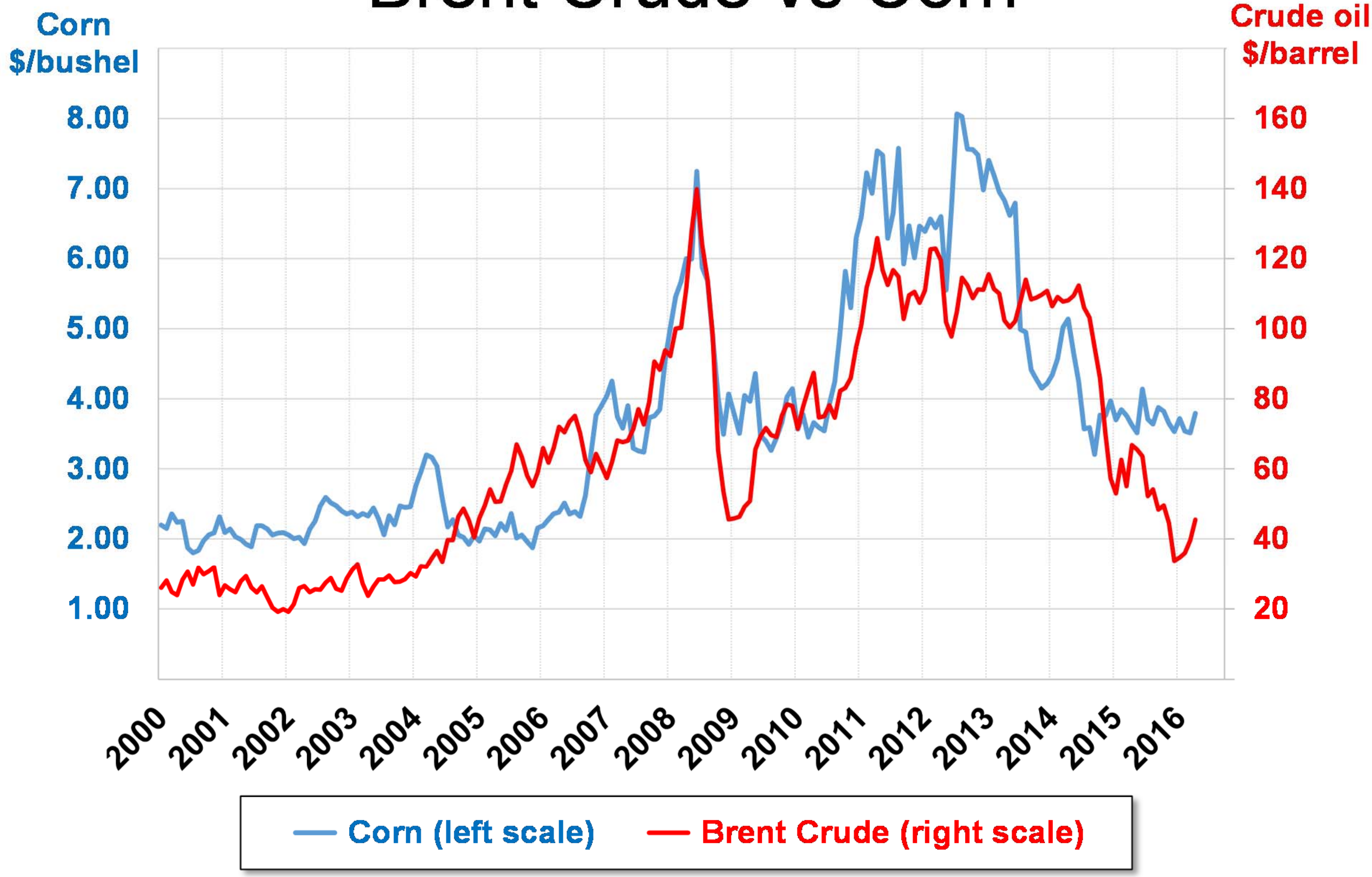
As of April 15th,
crude oil inventory was:
10% above last year,
34% above 5-year average

U.S. Crude Oil Production and Imports



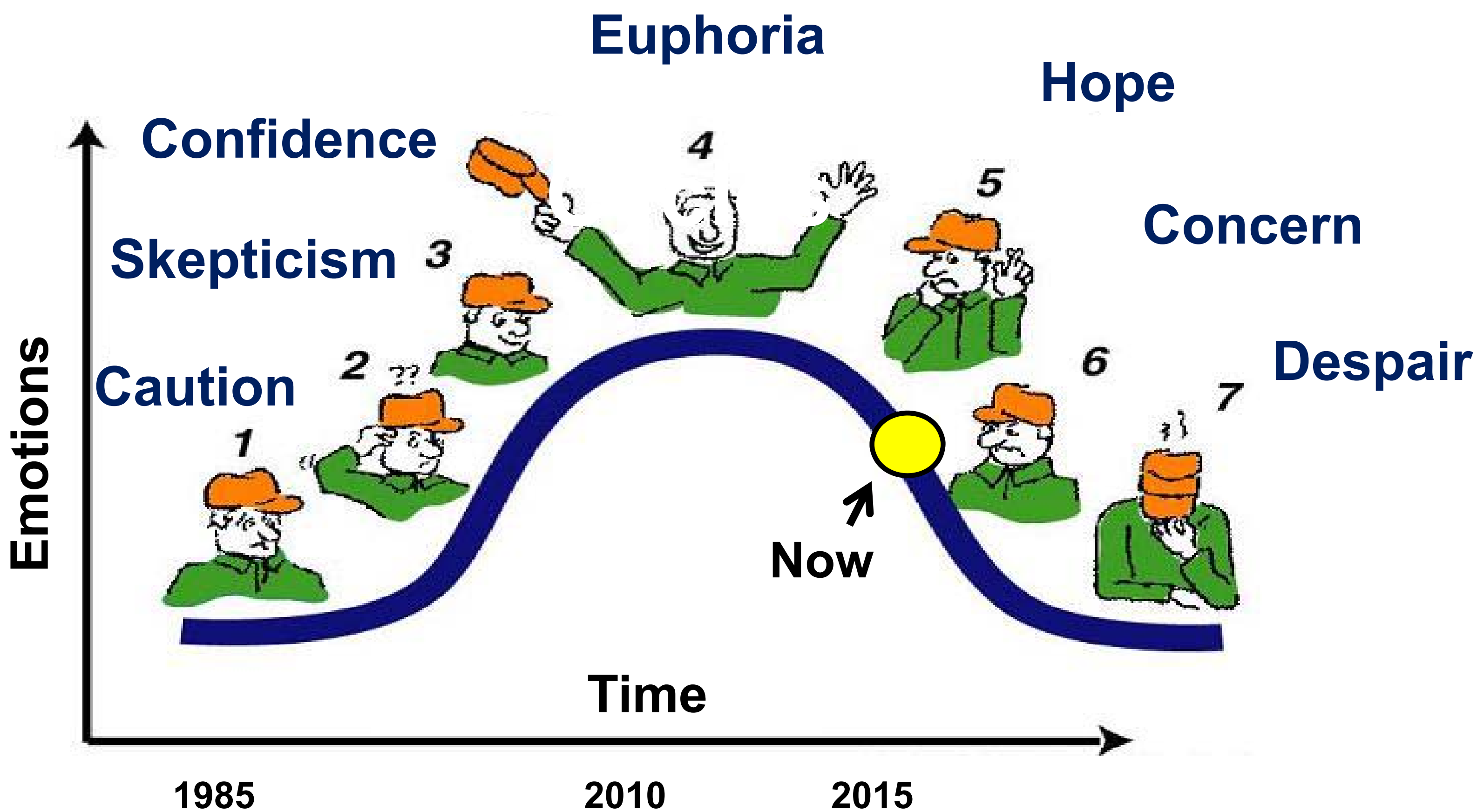
Source: EIA through April 15, 2016; values based on 4-week moving averages

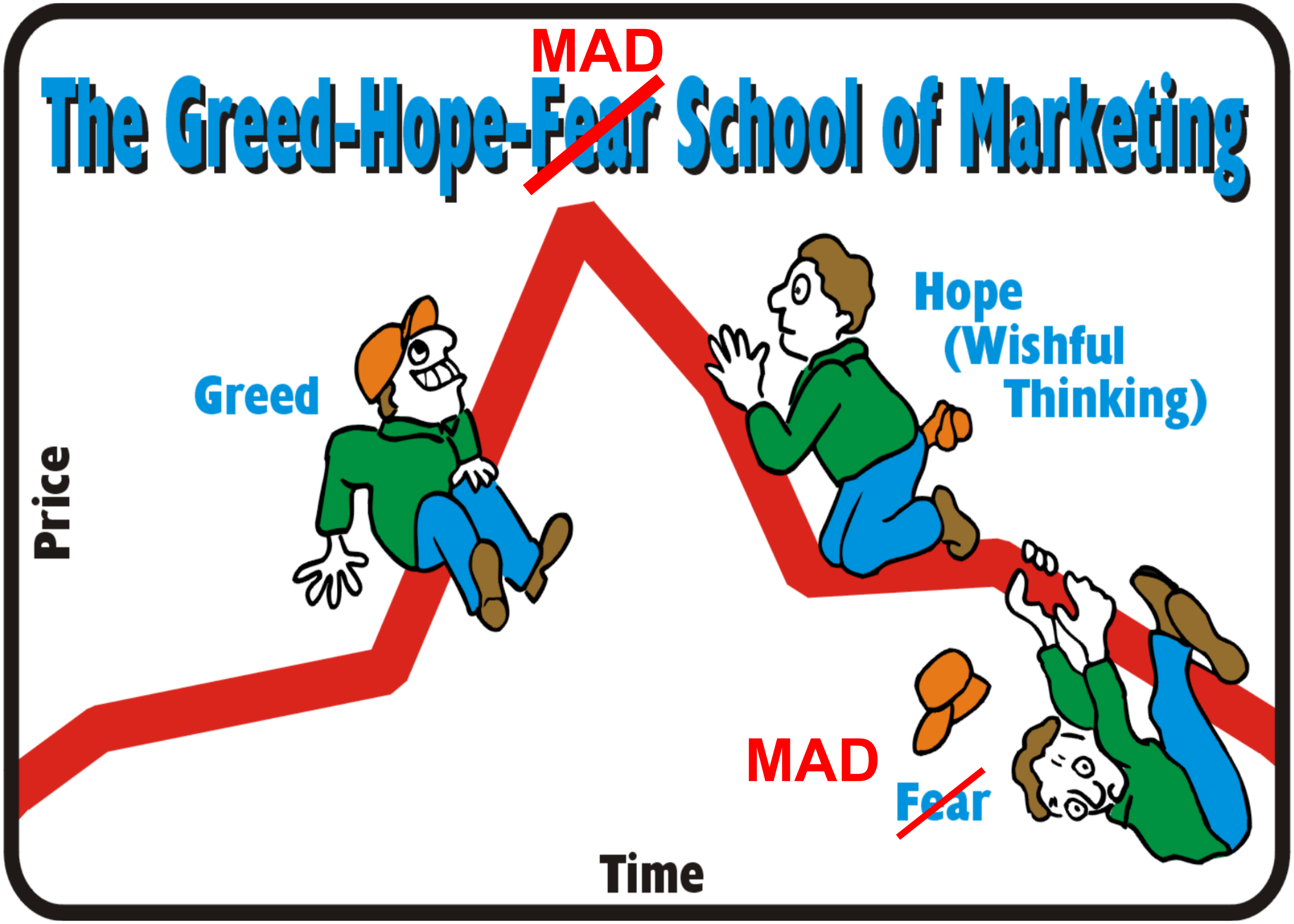
Brent Crude vs Corn



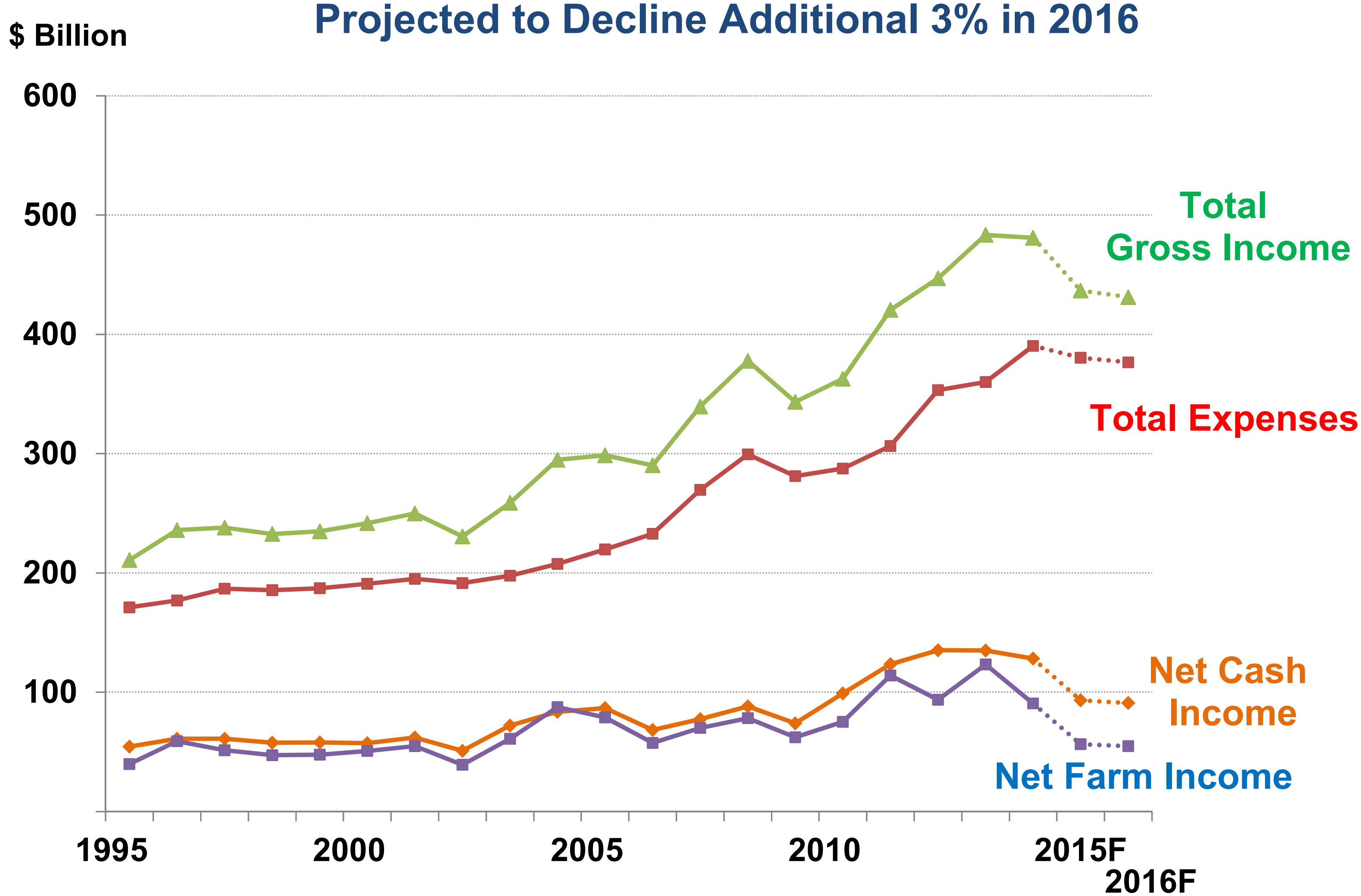
Farm Economy

7 Stages of Agricultural Economic Cycle



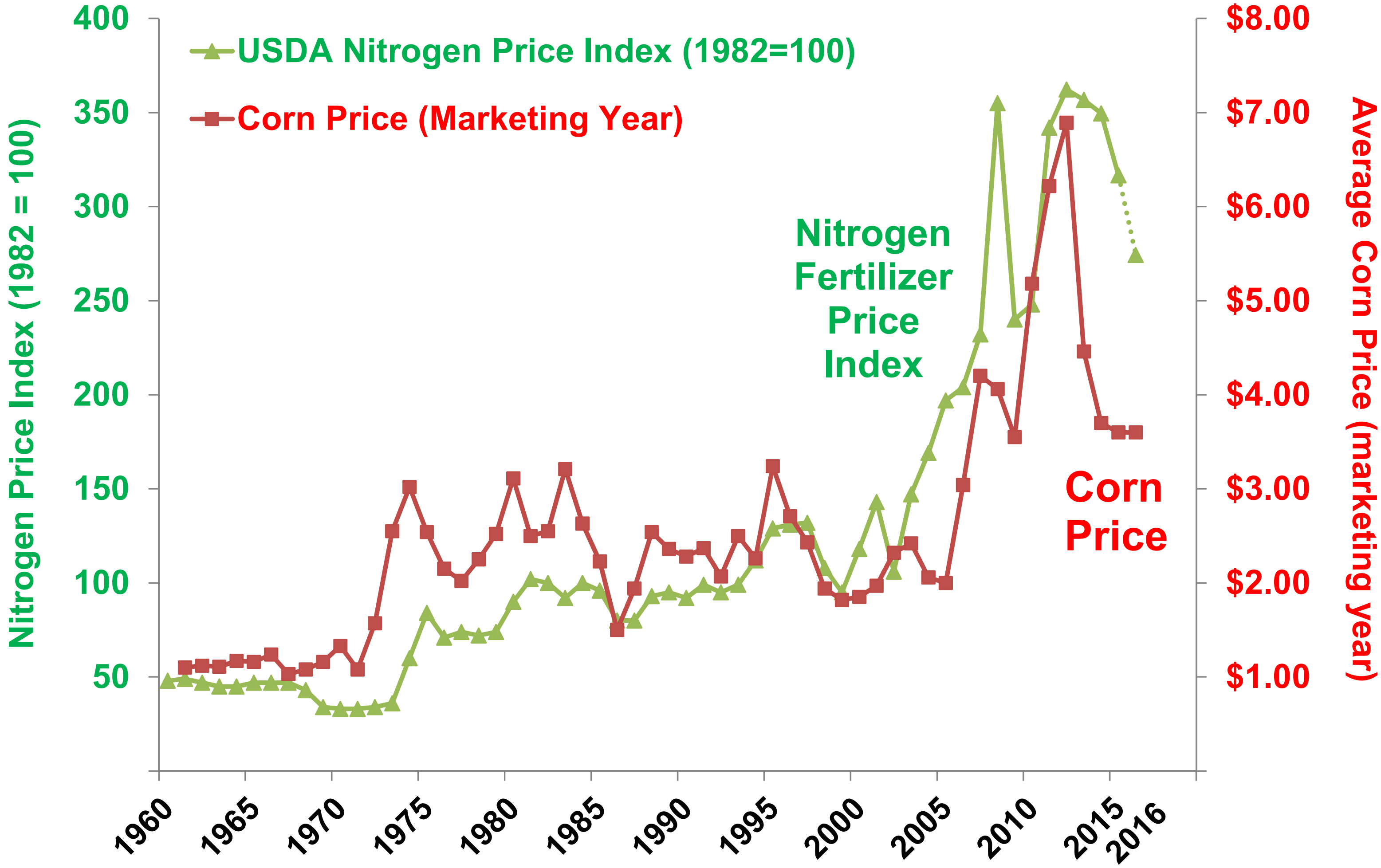

MAD
The Greed-Hope-~~Fear~~ School of Marketing
Greed
Hope
(Wishful
Thinking)
MAD
~~Fear~~
Price
Time

Net Farm Income -27% in 2014, -37% in 2015; Projected to Decline Additional 3% in 2016



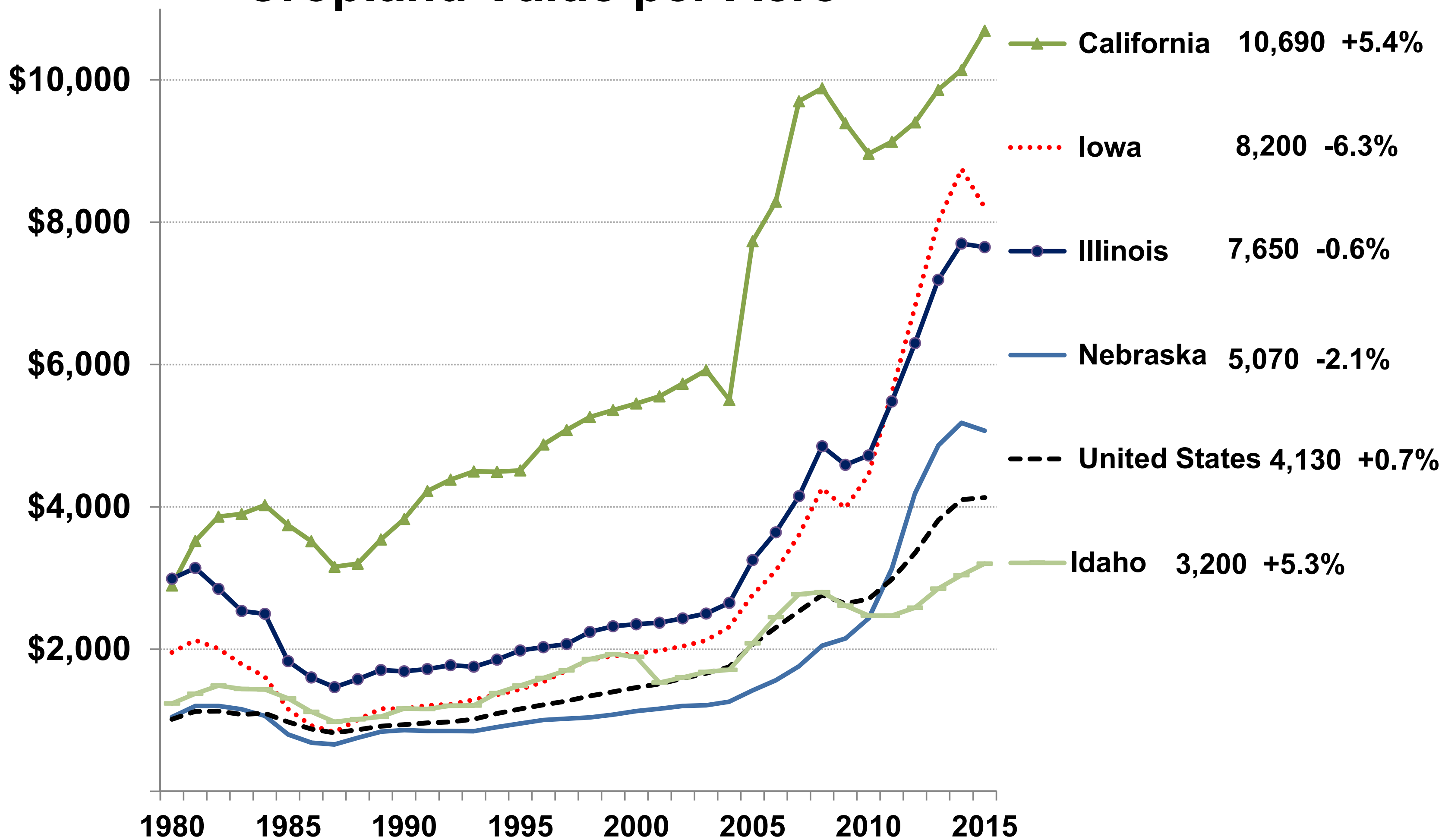
Source: USDA ERS, February 2016

Corn Prices and Nitrogen Prices are Highly Correlated



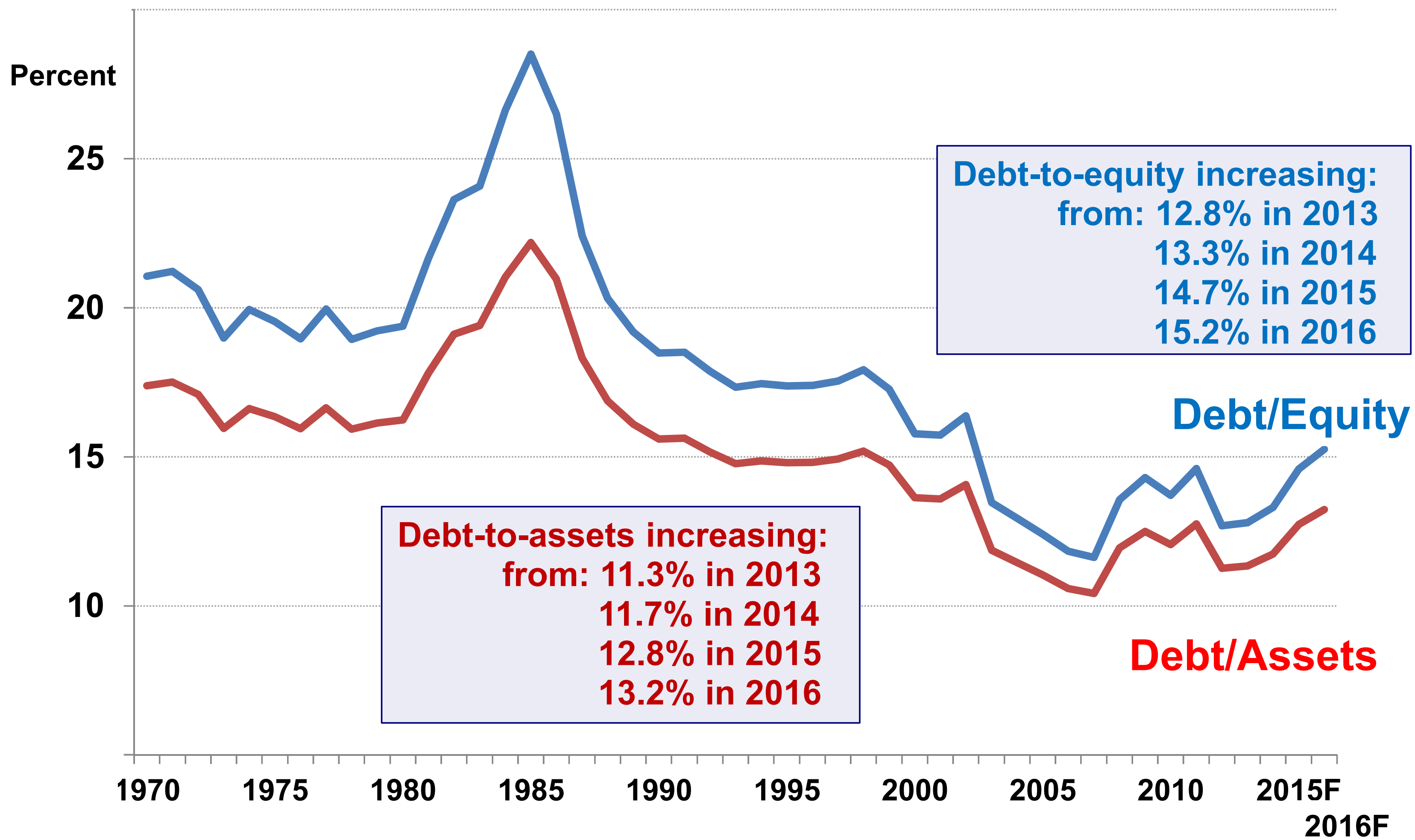
Source: USDA NASS

Cropland Value per Acre



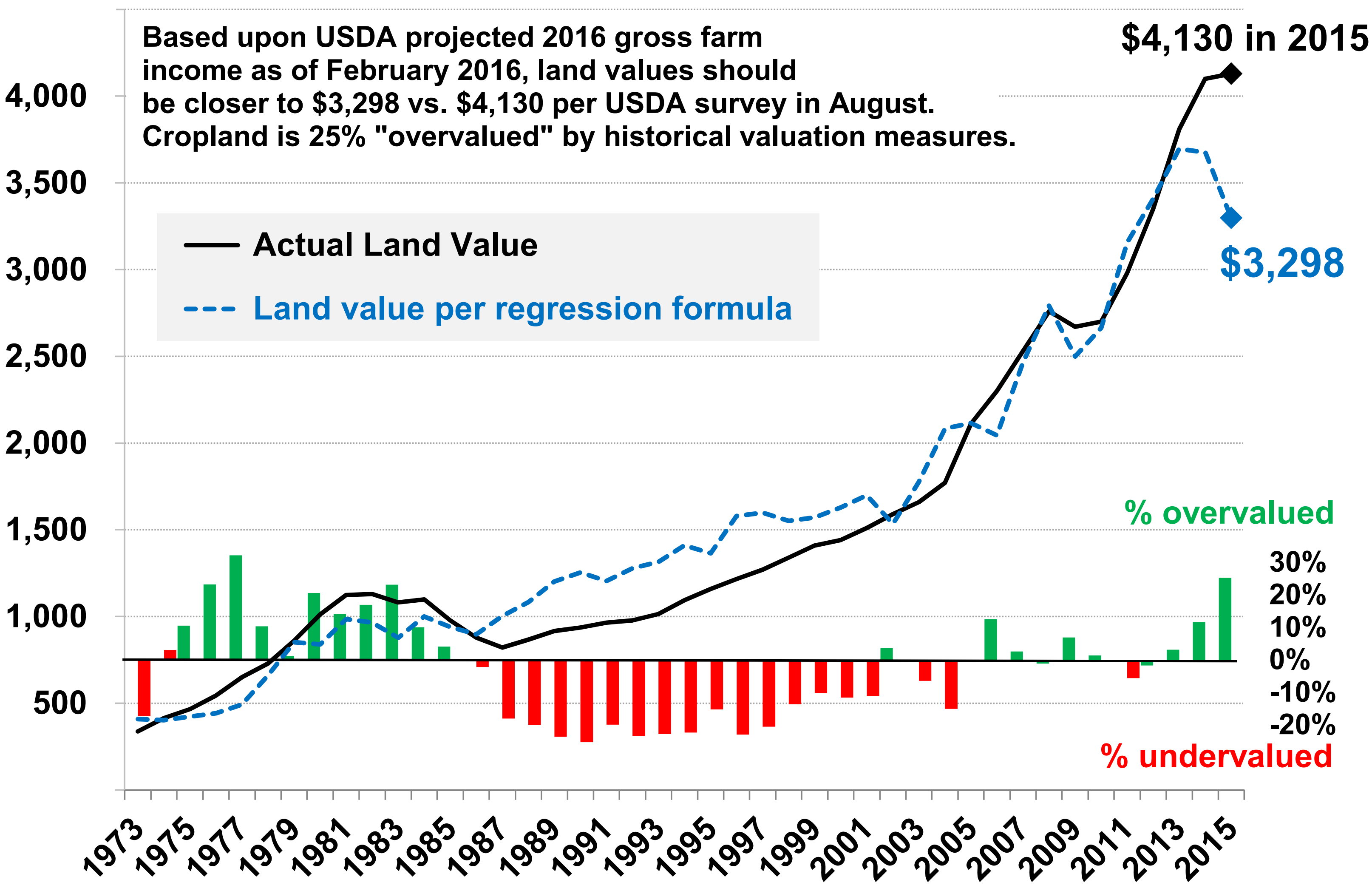
Source: USDA Land Values, August 2015 Summary

Farm Sector Debt Ratios Increasing



Source: USDA ERS , U.S. Farm Income and Wealth Statistics, February 2016

U.S. Gross Farm Income Correlation to Cropland Value



USDA Changes in Planted Acres (in millions)
2016* compared with 2015

Corn Supply & Demand

U.S. CORN SUPPLY AND DEMAND

Marketing year begins Sept 1	USDA 14/15	USDA 15/16 Proj	Outlook Forum 16/17	Brock 15/16	Brock 16/17
ACREAGE (million)					
Planted Area	90.6	88.0	93.6* ~~90.0~~	88.0	91.5
Harvested Area	83.1	80.7	82.3	80.7	83.7
Yield	171.0	168.4	168.0	168.4	169.0
SUPPLY (mil bu)					
Beg. Stocks	1,232	1,731	1,837	1,731	1,837
Production	14,216	13,601	13,825	13,601	14,145
Imports	32	50	40	50	30
Total Supply	15,479	15,382	15,702	15,382	16,012
USAGE (mil bu)					
Feed & Residual	5,324	5,250	5,425	5,300	5,400
Food/Seed/Ind	6,560	6,621	6,600	6,595	6,600
Ethanol & By-Products	5,200	5,250	5,225	5,225	5,225
Domestic Use	11,883	11,871	12,025	11,895	12,000
Exports	1,864	1,650	1,700	1,650	1,800
Total Use	13,748	13,521	13,725	13,545	13,800
Ending Stocks (mil bu, Aug 31)	1,731	1,862	1,977	1,837	2,212
CCC	0	0	0	0	0
Privately-Owned	1,731	1,862	1,977	1,837	2,212
Stocks/Use	12.6%	13.8%	14.4%	13.6%	16.0%
Farm Price ($/bu)	$3.70	$3.40-3.70	$3.60	$3.20-3.80	$3.15-3.75

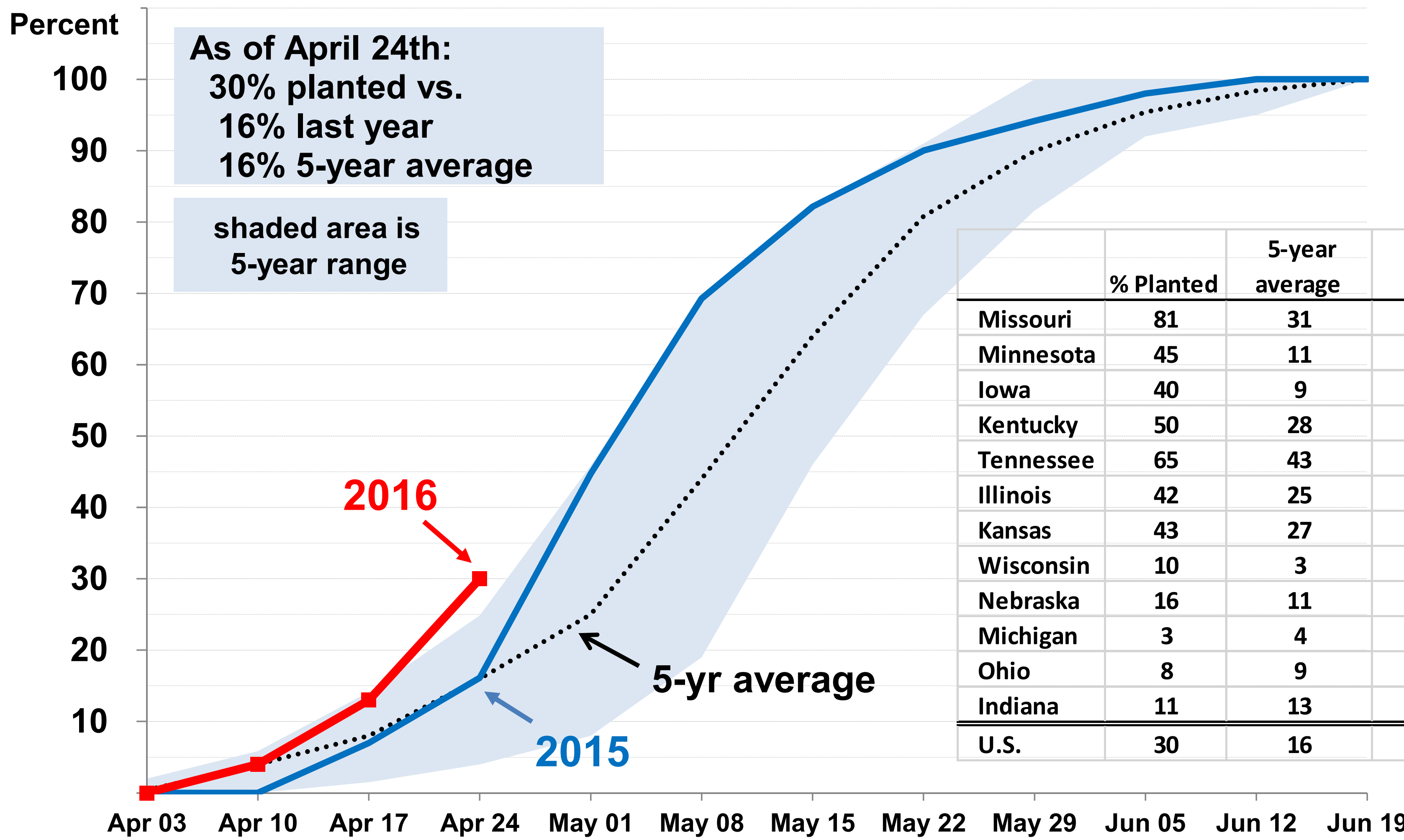
* Prospective Plantings report

USDA Corn Acreage

Top 10 States (million acres)

State	2013	2014	2015	March 1 2016 intentions	Change from 2015
Iowa	13.60	13.70	13.50	13.90	0.40
Illinois	12.00	11.90	11.70	12.10	0.40
Nebraska	9.95	9.30	9.40	9.70	0.30
Minnesota	8.60	8.20	8.10	8.20	0.10
Indiana	6.00	5.90	5.65	5.80	0.15
South Dakota	6.20	5.80	5.40	5.70	0.30
Kansas	4.30	4.05	4.15	4.80	0.65
Wisconsin	4.10	4.00	4.00	4.00	0.00
Ohio	3.90	3.70	3.55	3.55	0.00
Missouri	3.35	3.50	3.25	3.60	0.35
Top 10 Total	72.00	70.05	68.70	71.35	2.65
United States	95.37	90.60	88.00	93.60	5.60

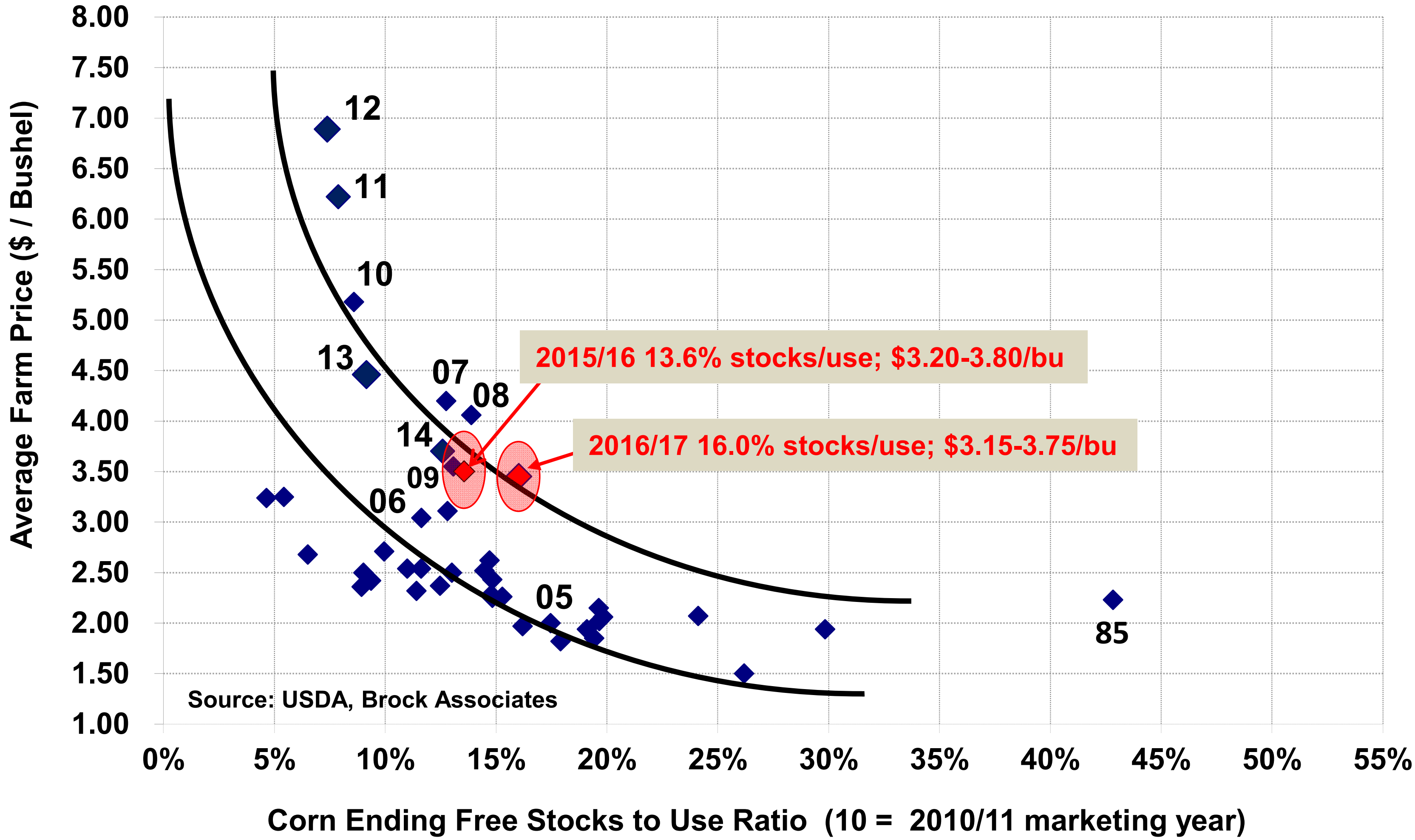
U.S. Corn Planting Progress



	% Planted	5-year average	+/-
Missouri	81	31	50
Minnesota	45	11	34
Iowa	40	9	31
Kentucky	50	28	22
Tennessee	65	43	22
Illinois	42	25	17
Kansas	43	27	16
Wisconsin	10	3	7
Nebraska	16	11	5
Michigan	3	4	-1
Ohio	8	9	-1
Indiana	11	13	-2
U.S.	30	16	14

Source: USDA NASS

U.S. Corn Free Stocks/Use Ratio vs. Average Price (1975/76 - 2016/17)

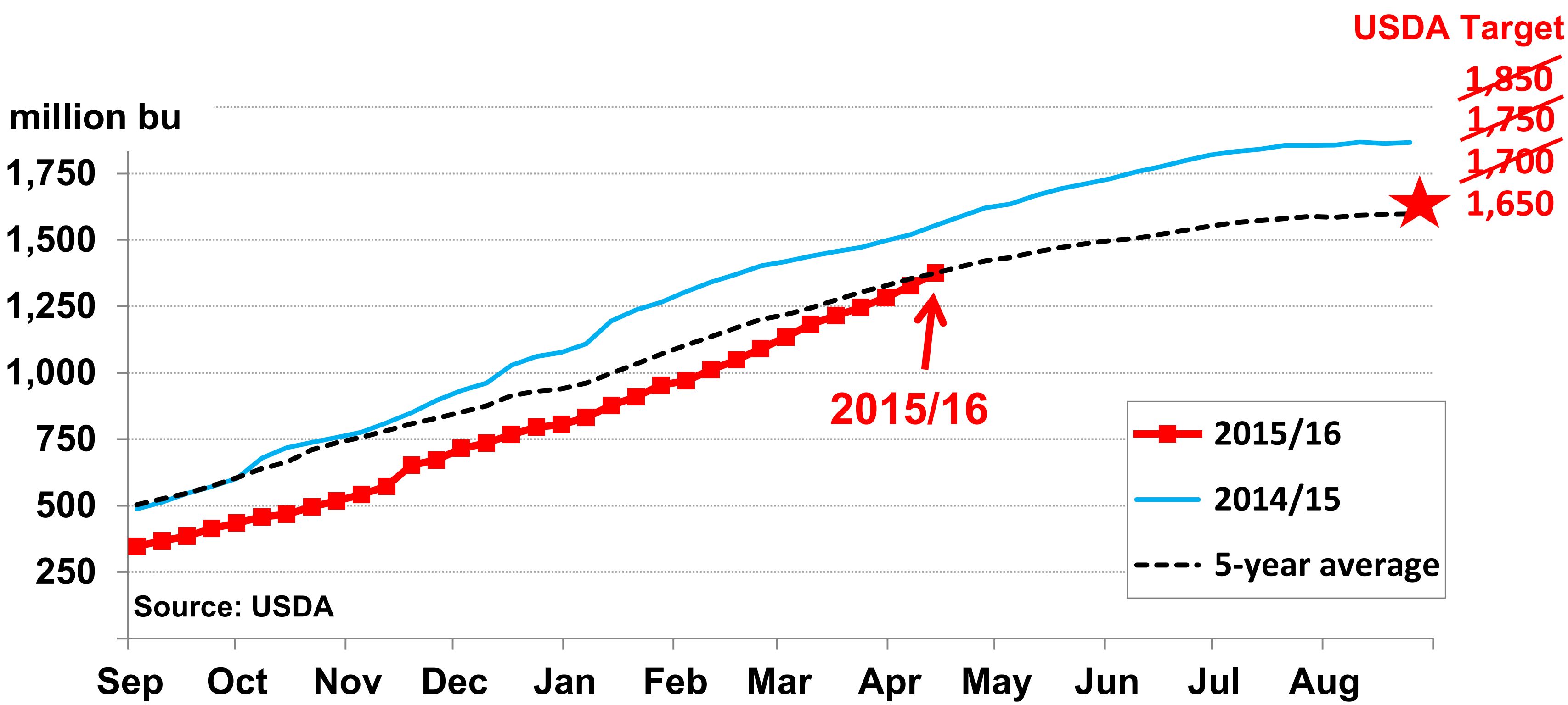


U.S. Corn Production (million bu)

	2012	2013	2014	2015	2016*	change from 2015
Iowa	1,877	2,140	2,367	2,505	**2,449**	-2.2%
Illinois	1,286	2,100	2,350	2,013	**2,101**	4.4%
Nebraska	1,292	1,614	1,602	1,693	**1,649**	-2.6%
Minnesota	1,374	1,294	1,178	1,429	**1,348**	-5.7%
Indiana	597	1,032	1,085	822	**933**	13.5%
South Dakota	535	803	787	800	**734**	-8.2%
Missouri	248	435	629	437	**483**	10.5%
Ohio	438	649	611	499	**549**	10.0%
Kansas	375	504	566	580	**552**	-4.8%
Wisconsin	396	439	485	492	**481**	-2.3%
Michigan	314	346	356	335	**351**	4.8%
North Dakota	422	396	314	328	**365**	11.1%
Rest of States	1,600	2,076	1,886	1,668	**1,956**	17.3%
US TOTAL	10,755	13,829	14,216	13,601	**13,950**	2.6%

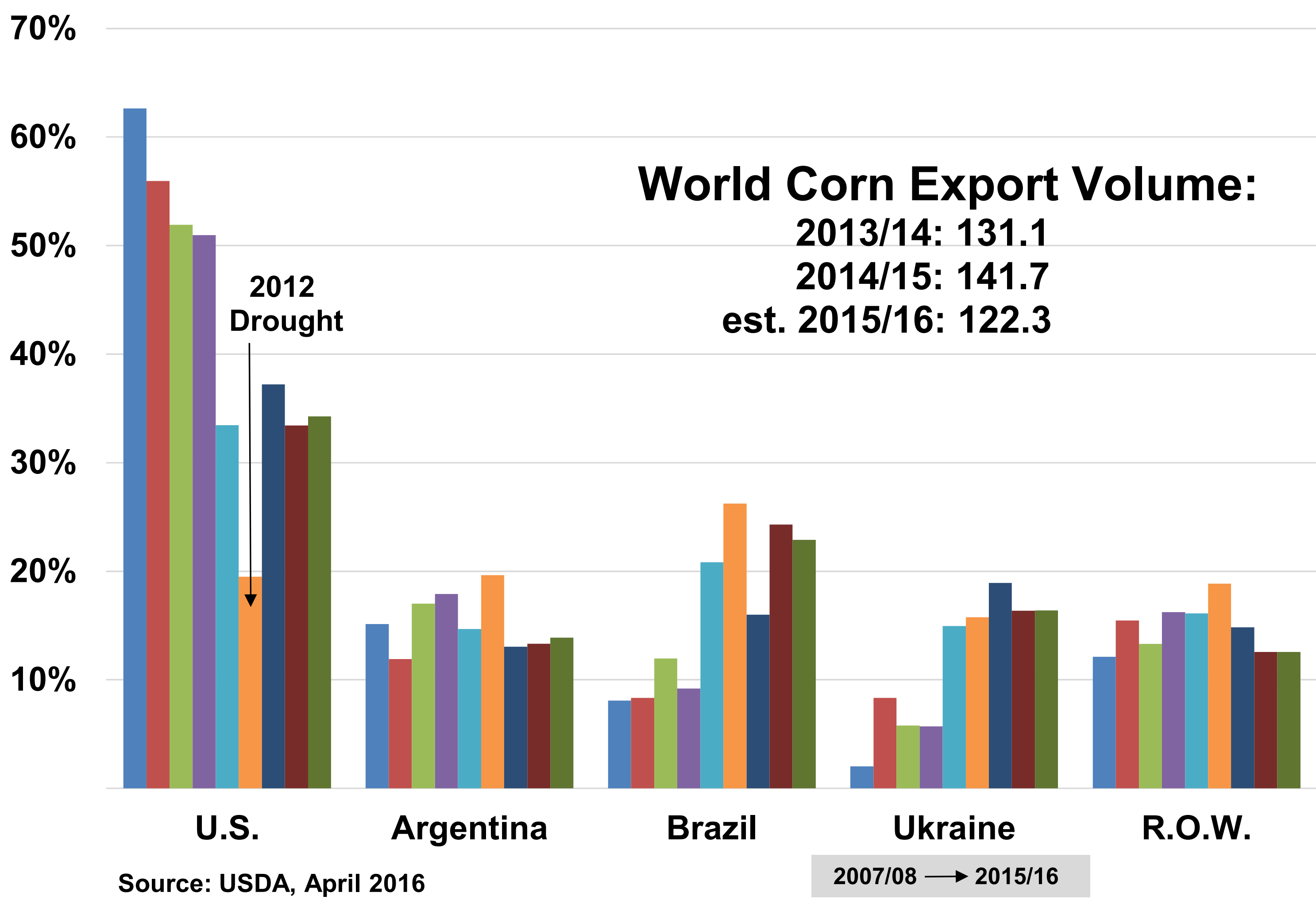
* assumes Prospective Plantings acreage, 20-year trend yield by state, and 20-year average percent harvested by state

Corn Export Commitments



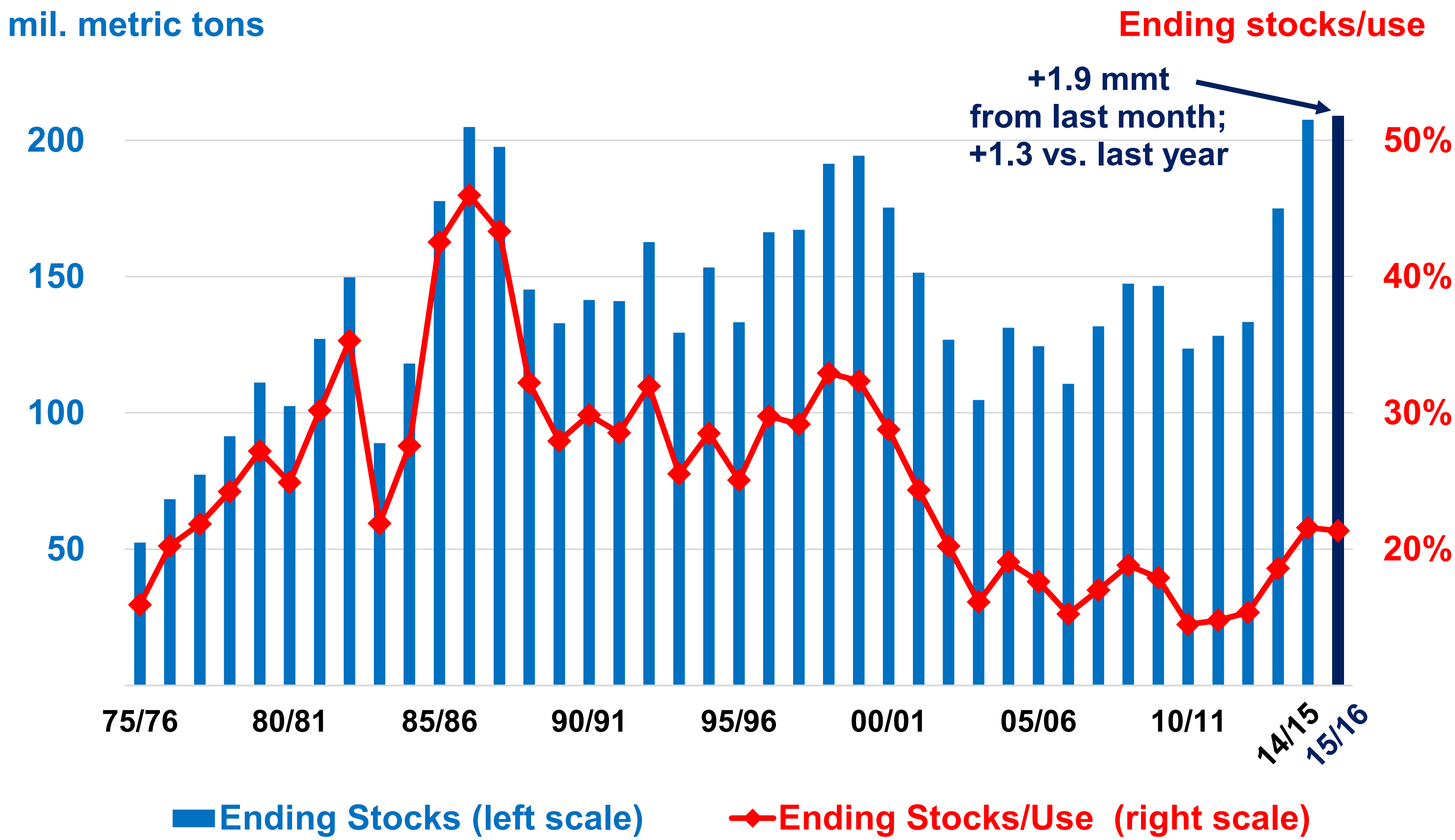
➢ 12% below last year

World Corn Export Share, 2007/08 to 2015/16



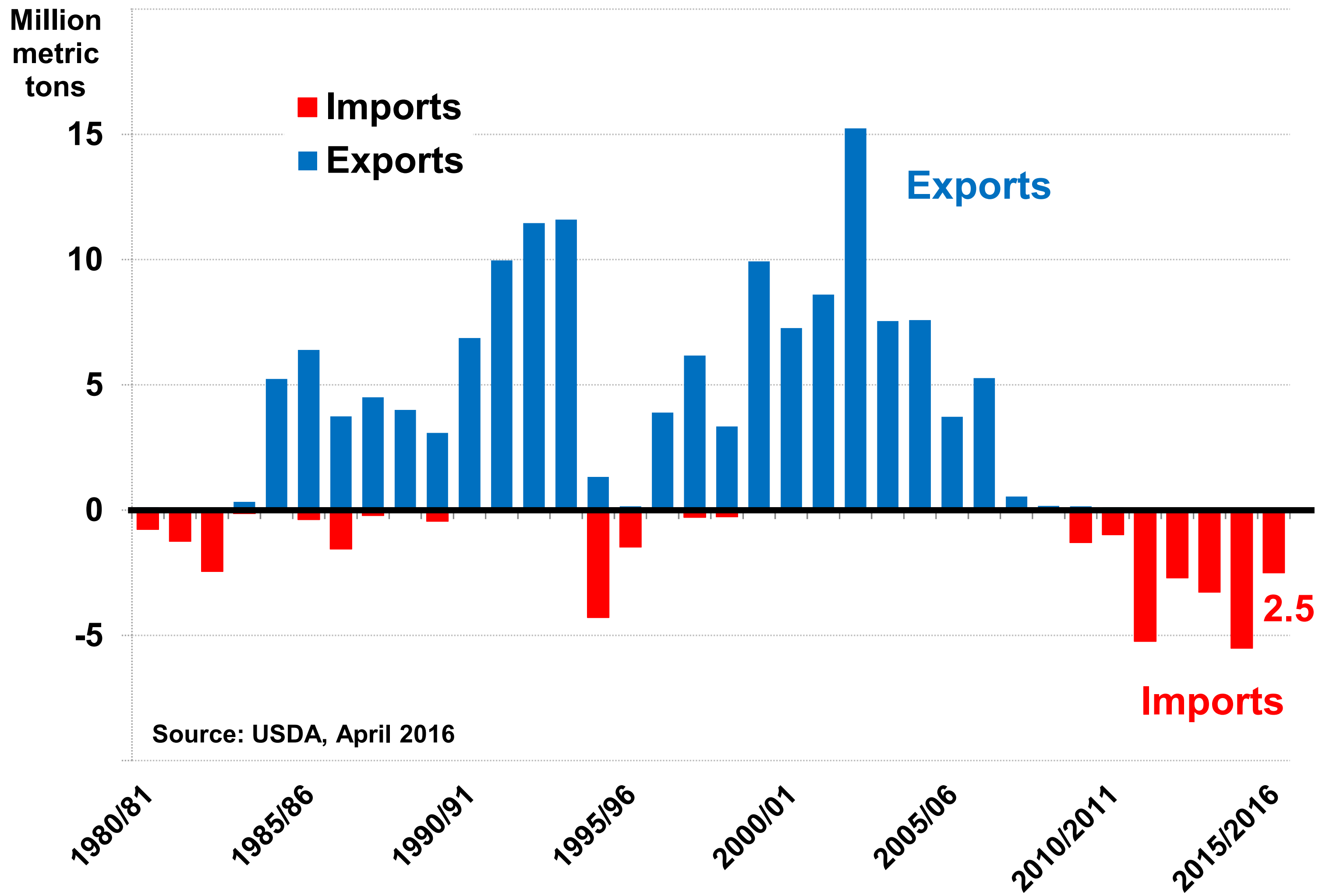
Source: USDA, April 2016

World Corn Ending Stocks and Stocks/Use

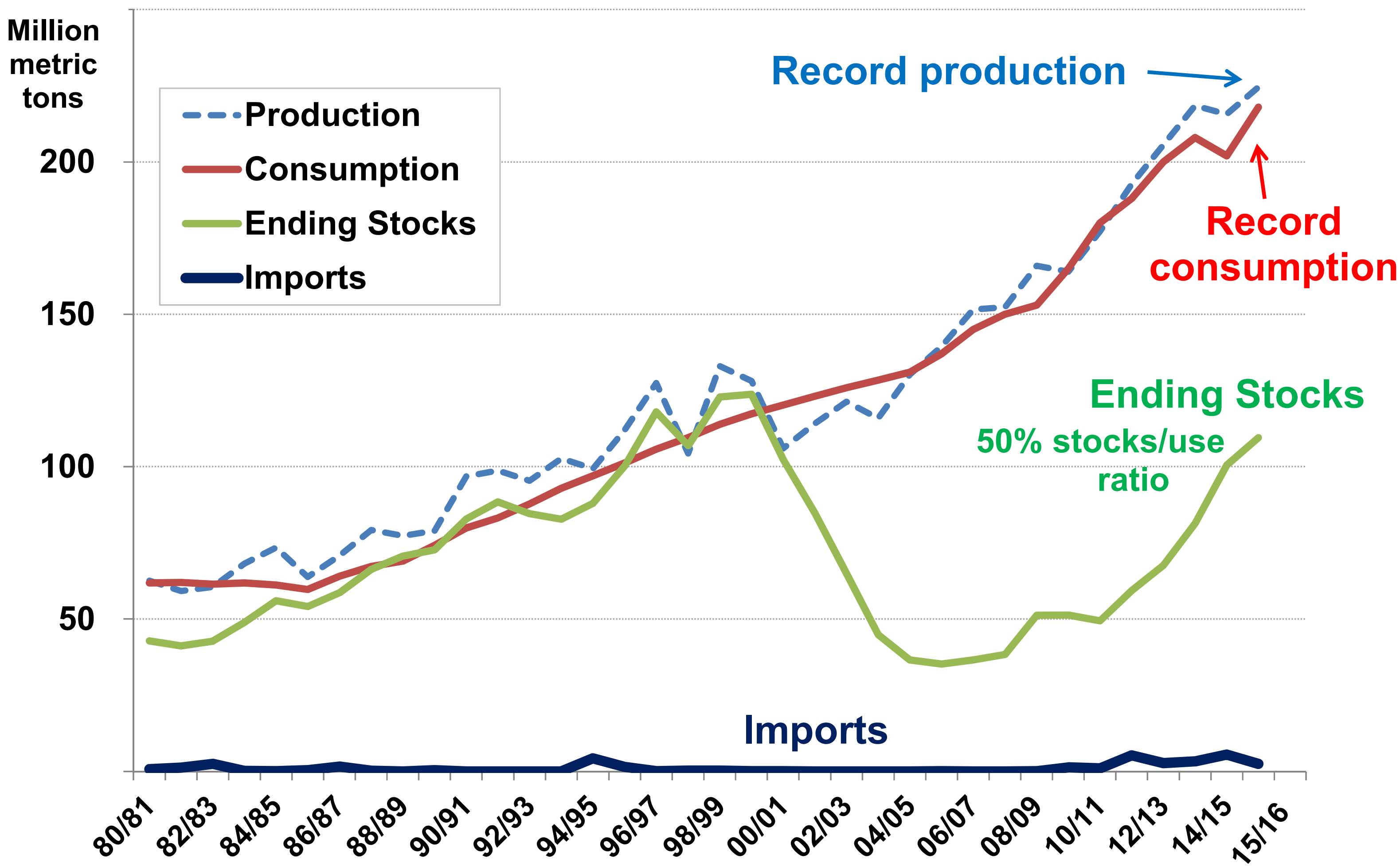


Source: USDA FAS, April 2016

China Corn Imports & Exports



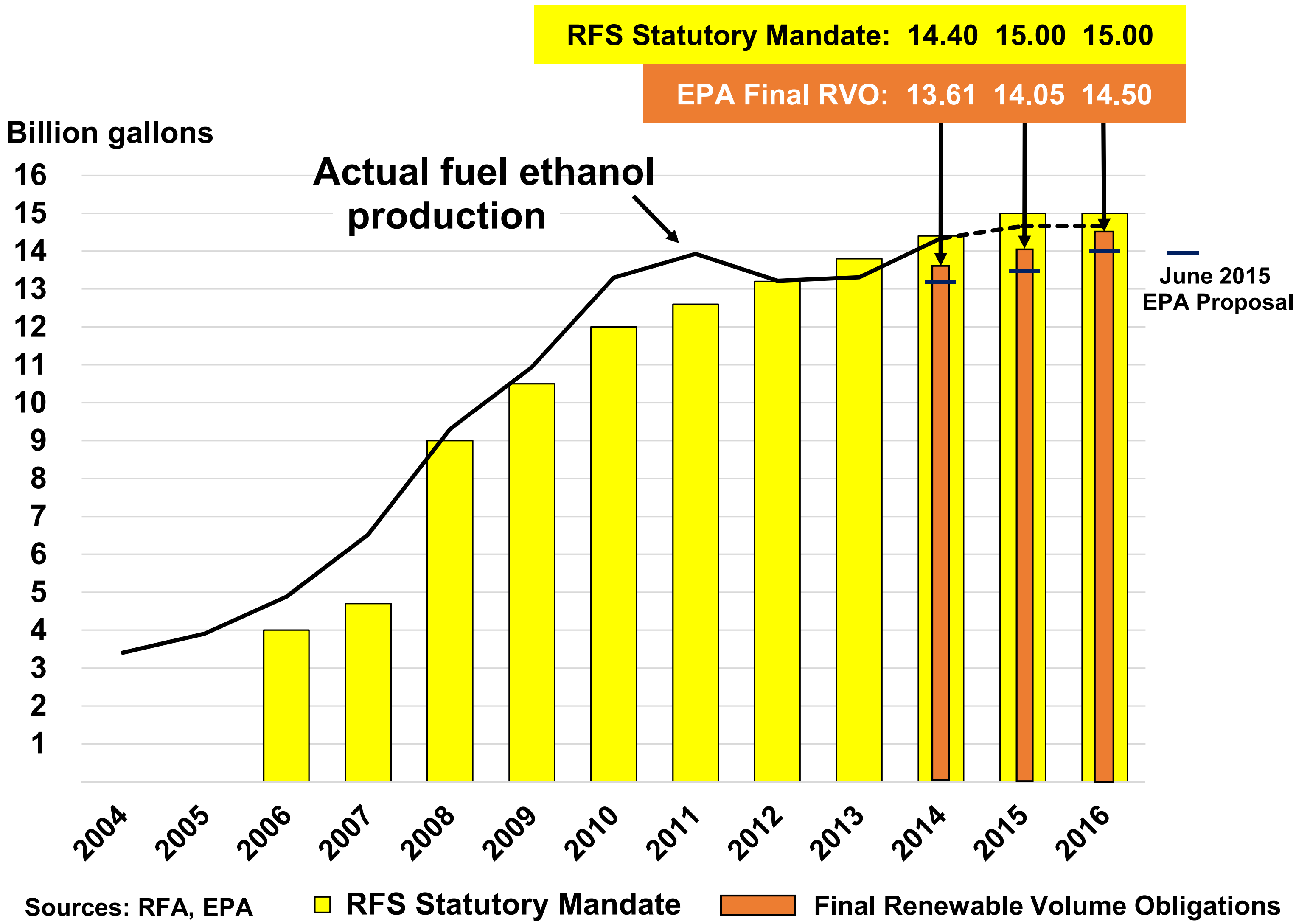
China Corn Fundamentals



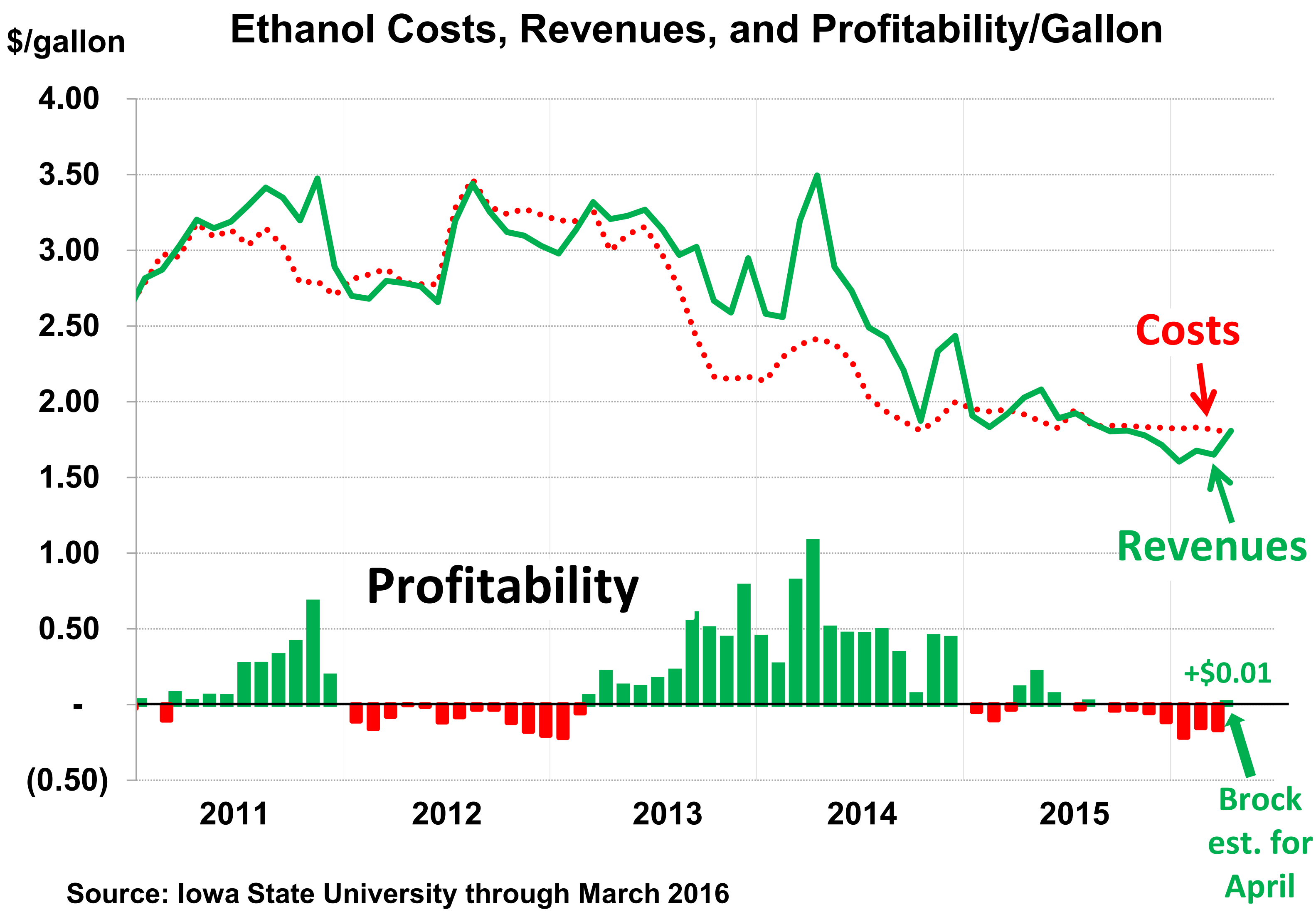
Source: USDA, April, 2016

Ethanol

EPA Releases Final Renewable Fuel Obligations (RVO's) for 2014 - 2016

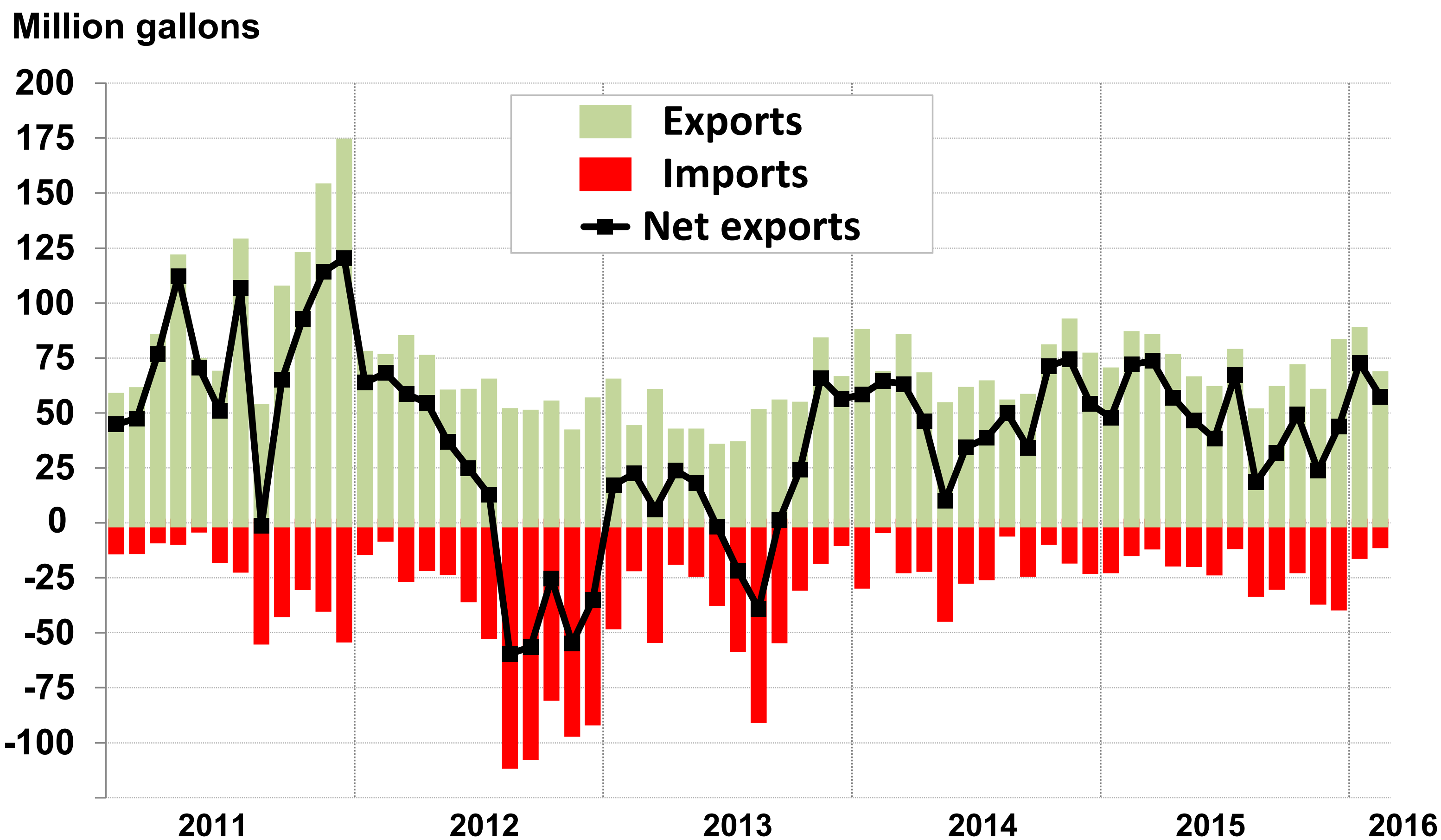


Sources: RFA, EPA



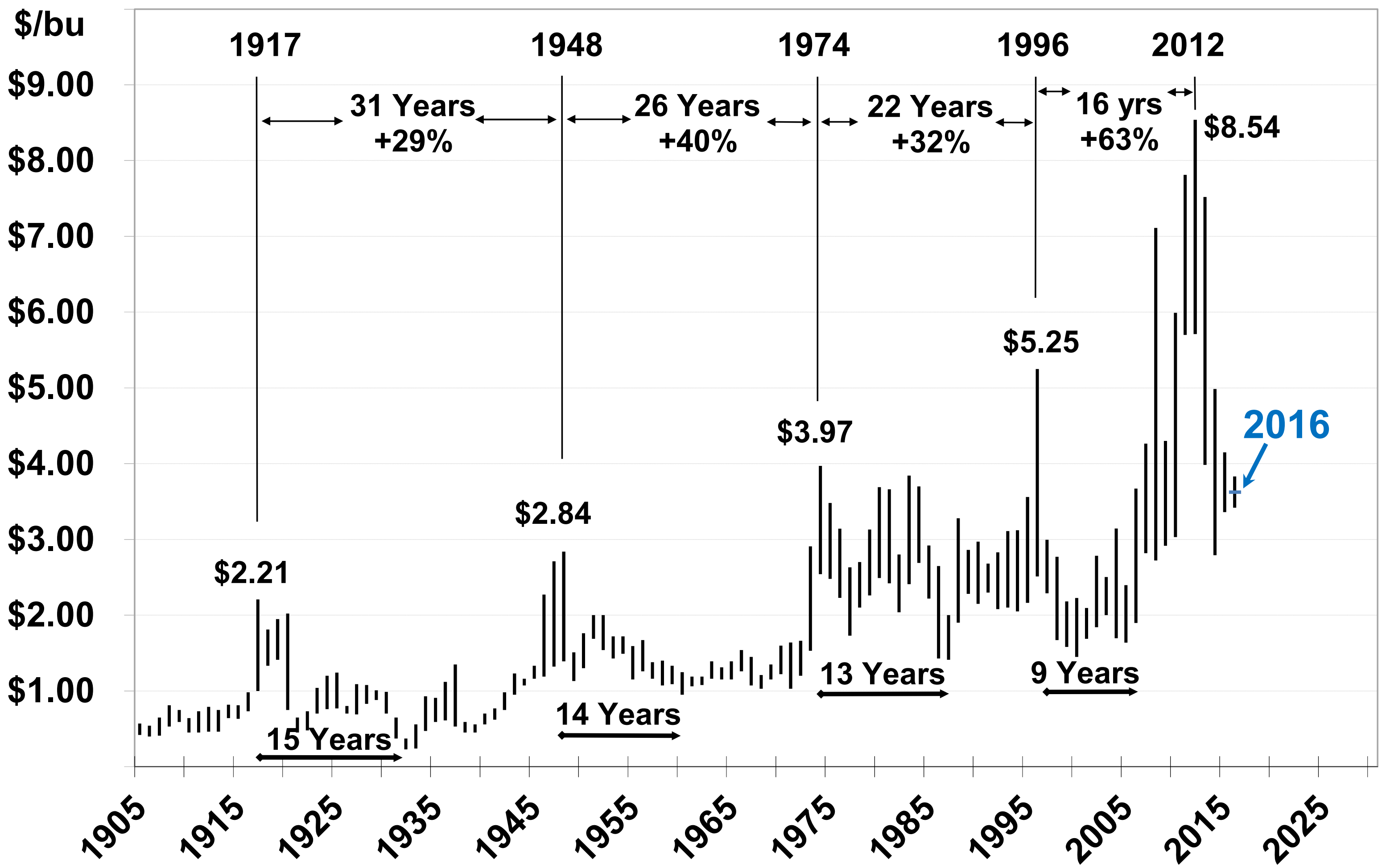
Source: Iowa State University through March 2016

U.S. Ethanol Imports and Exports



Source: USDA FAS (through February; March data to be released in May)

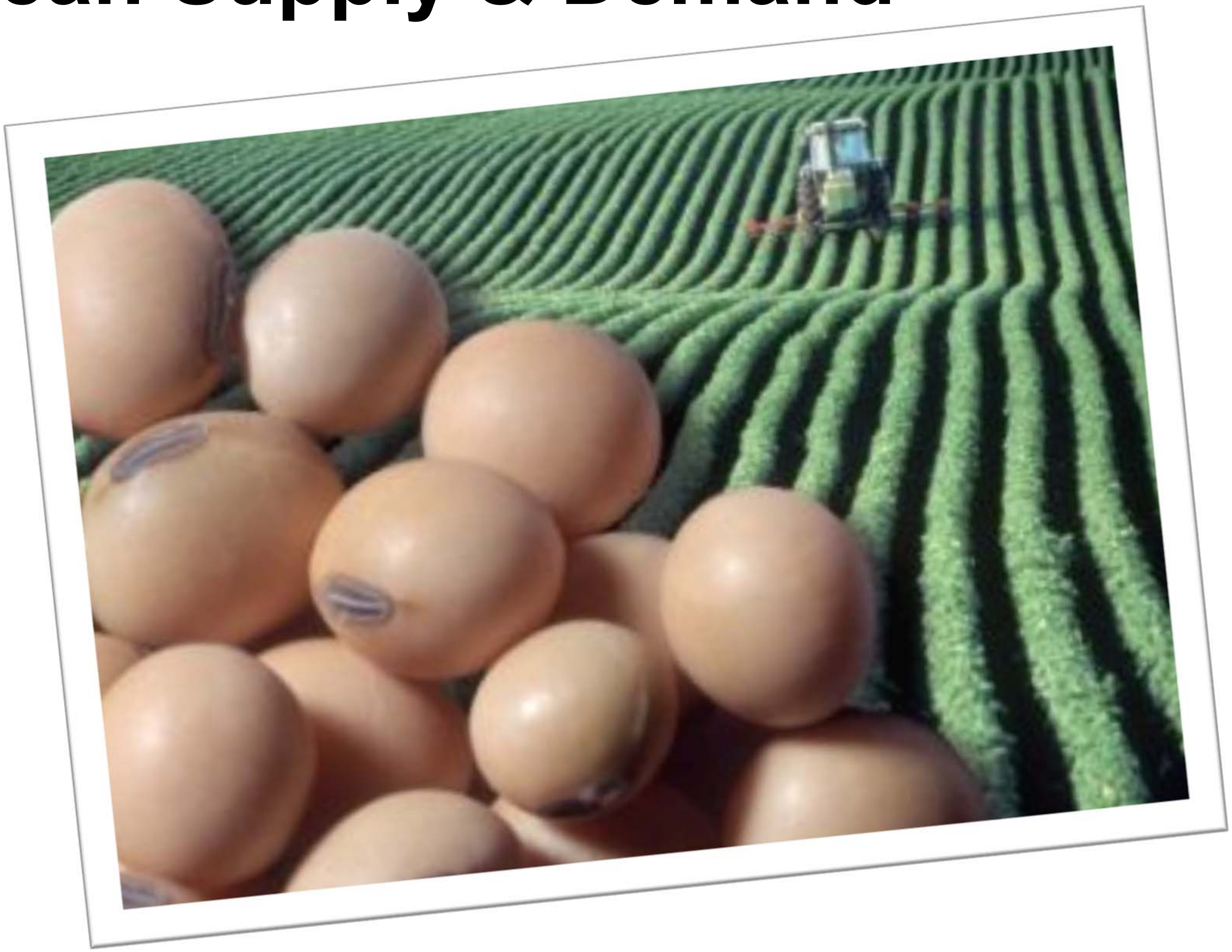
Central Illinois Cash Corn (1905-2016*)



* Updated April 26, 2016

December 2016 Corn

Soybean Supply & Demand



U.S. SOYBEAN SUPPLY AND DEMAND

Marketing year begins Sep 1	USDA 14/15	USDA 15/16 Proj.	Outlook Forum 16/17	Brock 15/16	Brock 16/17
ACREAGE (million)			82.2*		
Planted Acres	83.3	82.7	~~82.5~~	82.7	83.5
Harvested Acres	82.6	81.8	81.6	81.8	82.7
Yield	47.5	48.0	46.7	48.0	47.5
SUPPLY (mil bu)					
Beg. Stocks	92	191	450	191	439
Production	3,927	3,929	3,810	3,930	3,928
Imports	33	30	30	30	30
Total Supply	4,052	4,150	4,289	4,150	4,397
USAGE (mil bu)					
Crush	1,873	1,870	1,900	1,870	1,900
Exports	1,843	1,705	1,825	1,710	1,850
Seed	96	65	92	92	97
Residual	49	34	32	39	48
Total Use	3,862	3,705	3,850	3,711	3,895
Ending Stocks (mil bu, Aug 31)	191	445	440	439	502
CCC	0	0	0	0	0
Privately-Owned	191	445	440	439	502
Stocks/Use	4.9%	12.0%	11.4%	11.8%	12.9%
Farm Price ($/Bu)	$10.10	$8.50-9.00	$8.50	$8.05-9.20	$8.25-9.50

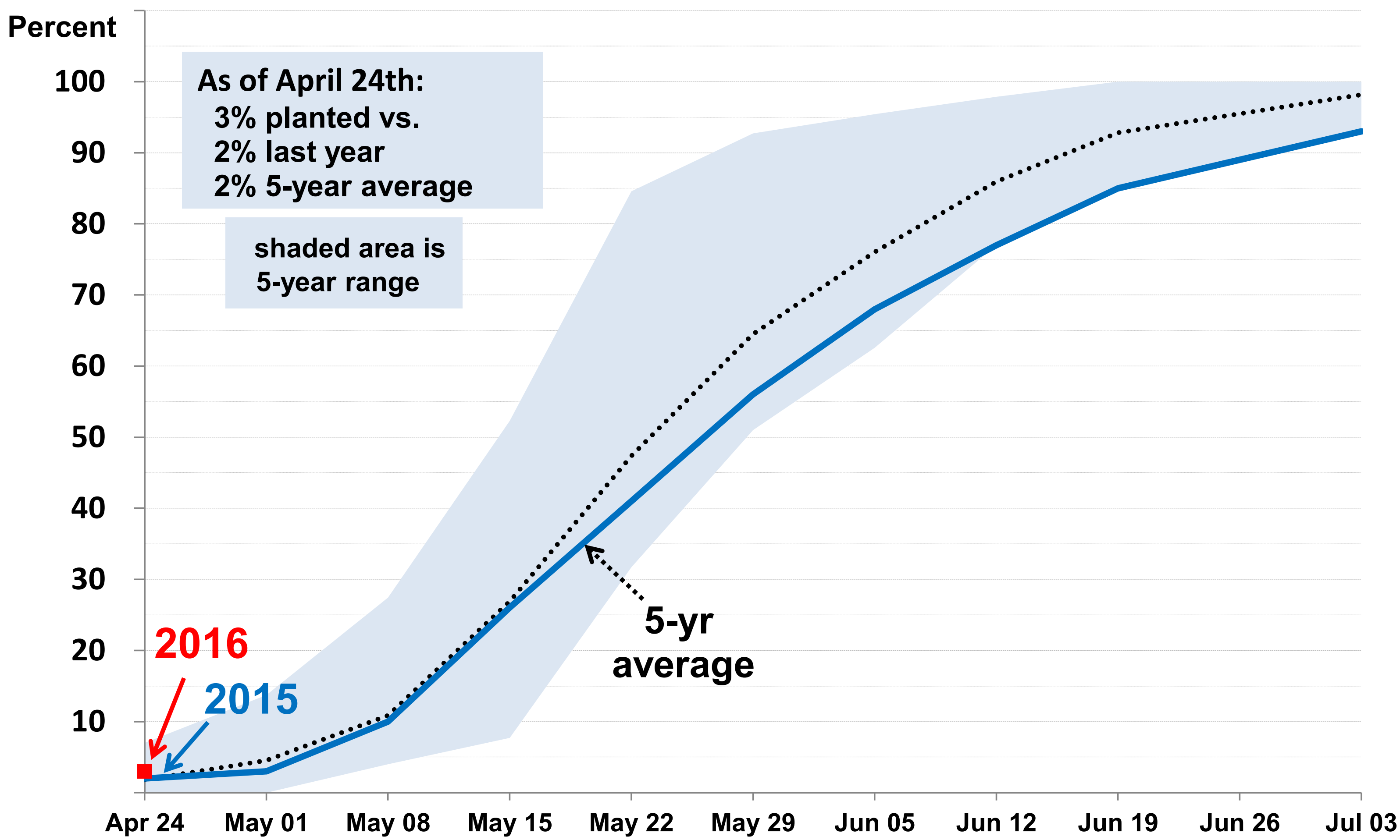
*** Prospective Plantings report**

USDA Soybean Acreage

Top 12 States (million acres)

State	2013	2014	2015	March 1 2016 intentions	Change from 2015
Iowa	9.30	9.85	9.85	9.70	-0.15
Illinois	9.50	9.80	9.80	10.00	0.20
Minnesota	6.70	7.35	7.60	7.40	-0.20
Missouri	5.65	5.65	4.55	5.50	0.95
Indiana	5.20	5.45	5.55	5.55	0.00
Nebraska	4.80	5.40	5.30	5.30	0.00
Ohio	4.50	4.70	4.75	4.65	-0.10
South Dakota	4.60	5.15	5.15	5.00	-0.15
North Dakota	4.65	5.90	5.75	5.90	0.15
Kansas	3.60	4.00	3.90	3.85	-0.05
Arkansas	3.27	3.23	3.20	3.05	-0.15
Mississippi	2.01	2.21	2.30	2.00	-0.30
Top 12 Total	63.78	68.69	67.70	67.90	0.20
United States	76.84	83.28	82.65	82.24	-0.41

U.S. Soybean Planting Progress

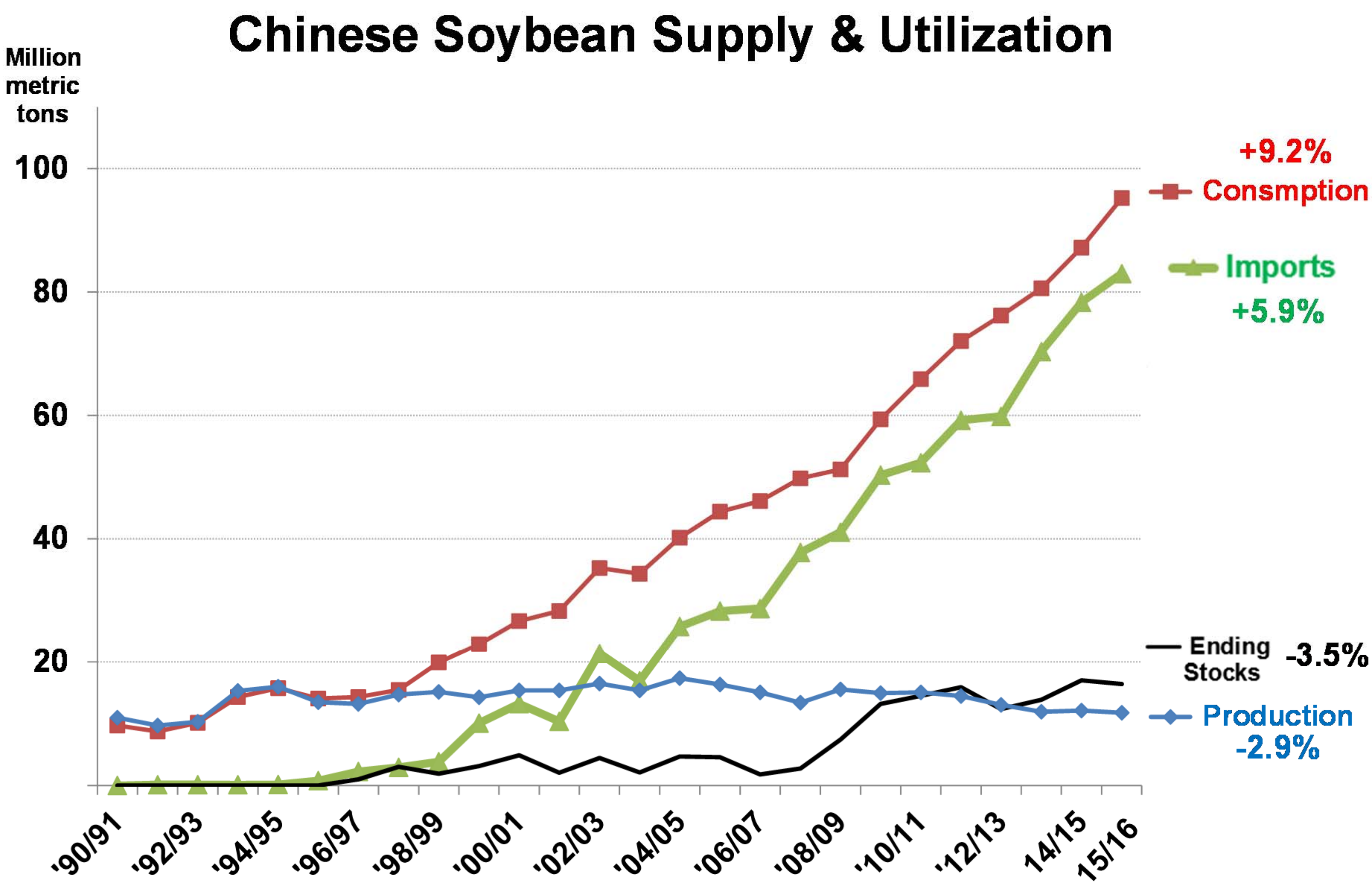


Source: USDA NASS

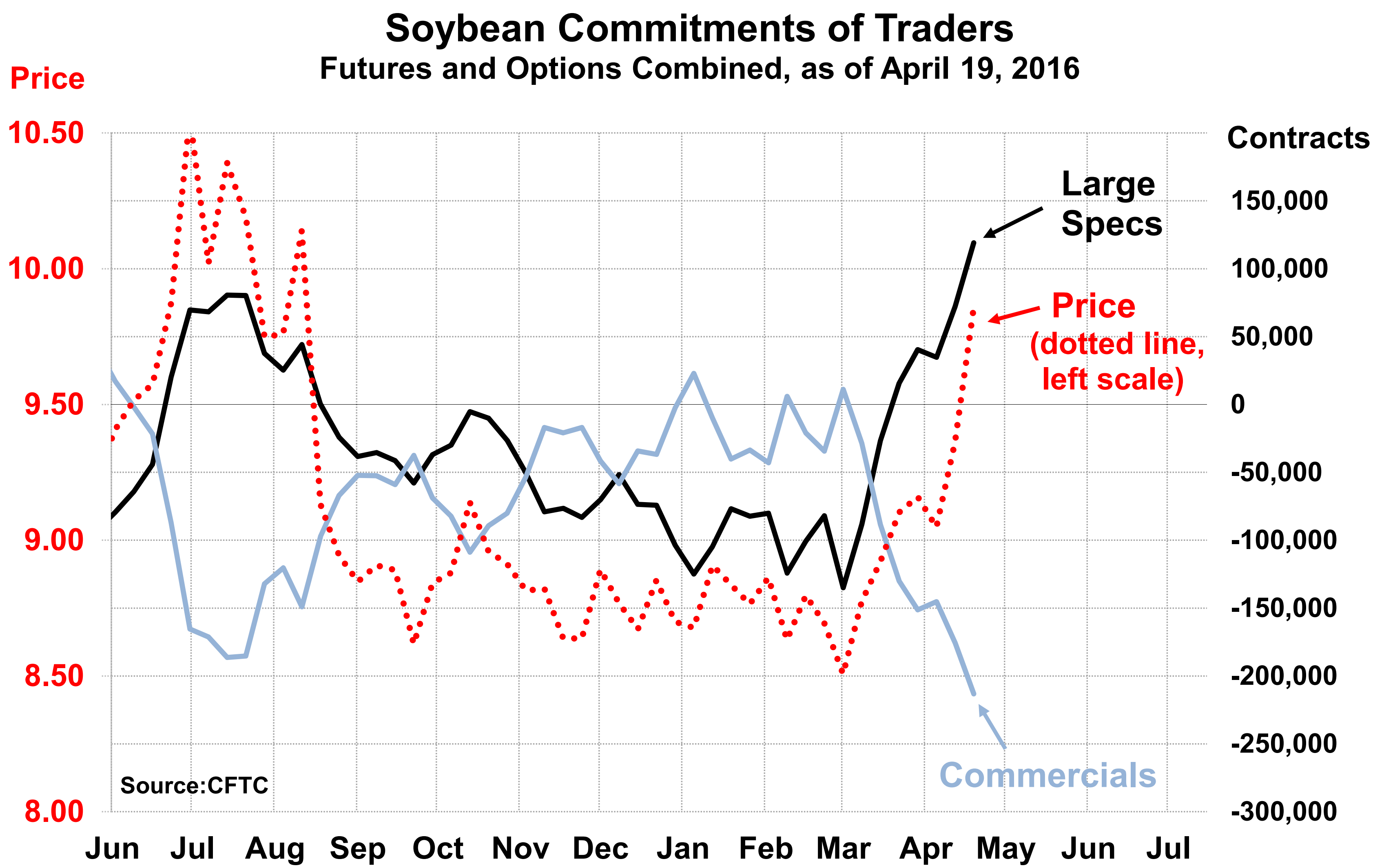
USDA World Soybean Production (million metric tons)

	2012/13	2013/14	2014/15	2015/16	2015/16 Change from Feb
Brazil	82.0	86.7	97.2	100.0	0.0
United States	82.8	91.4	106.9	106.9	0.0
Argentina	49.3	53.4	61.4	59.0	0.5
World Total	268.6	282.6	319.5	320.2	-0.1

Source: USDA, April 2016

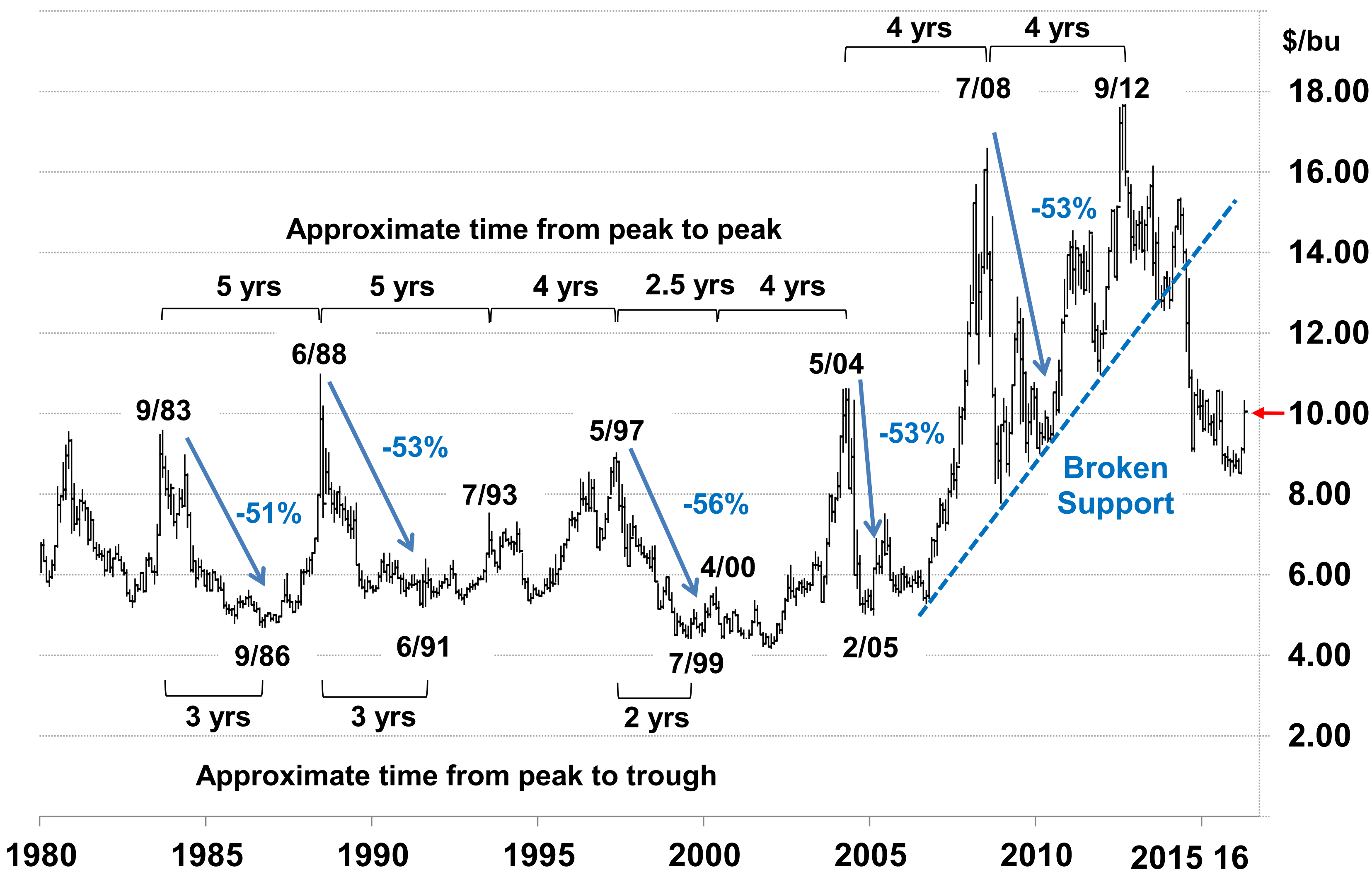


Source: USDA, April 2016

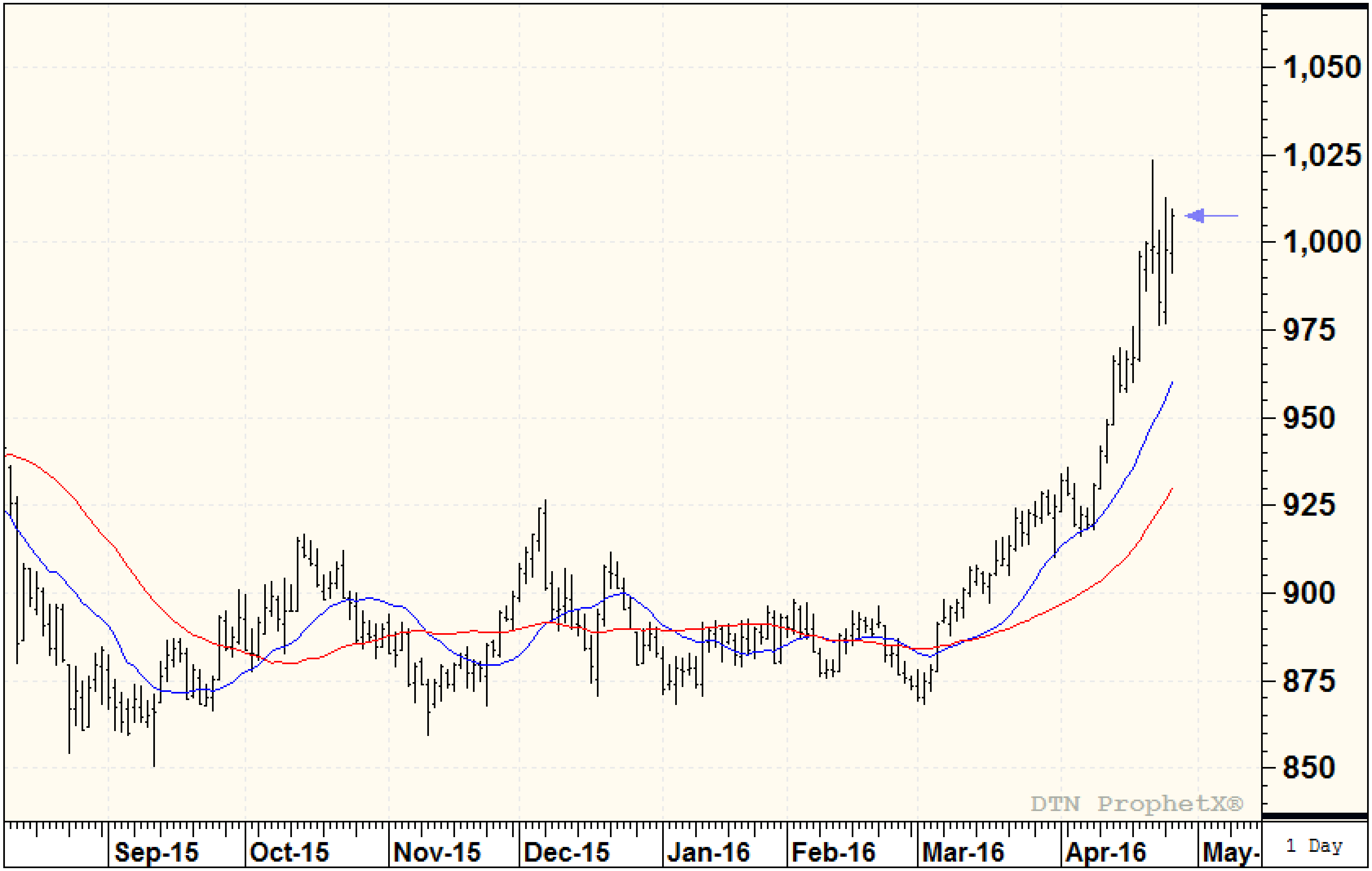


Soybean Commitments of Traders
Futures and Options Combined, as of April 19, 2016
Price
10.50
10.00
9.50
9.00
8.50
8.00
Contracts
150,000
100,000
50,000
0
-50,000
-100,000
-150,000
-200,000
-250,000
-300,000
Large Specs
Price (dotted line, left scale)
Commercials
Source:CFTC
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Jan
Feb
Mar
Apr
May
Jun
Jul

Continuous Monthly Soybean Futures



November 2016 Soybeans



July 2016 Soybean Meal

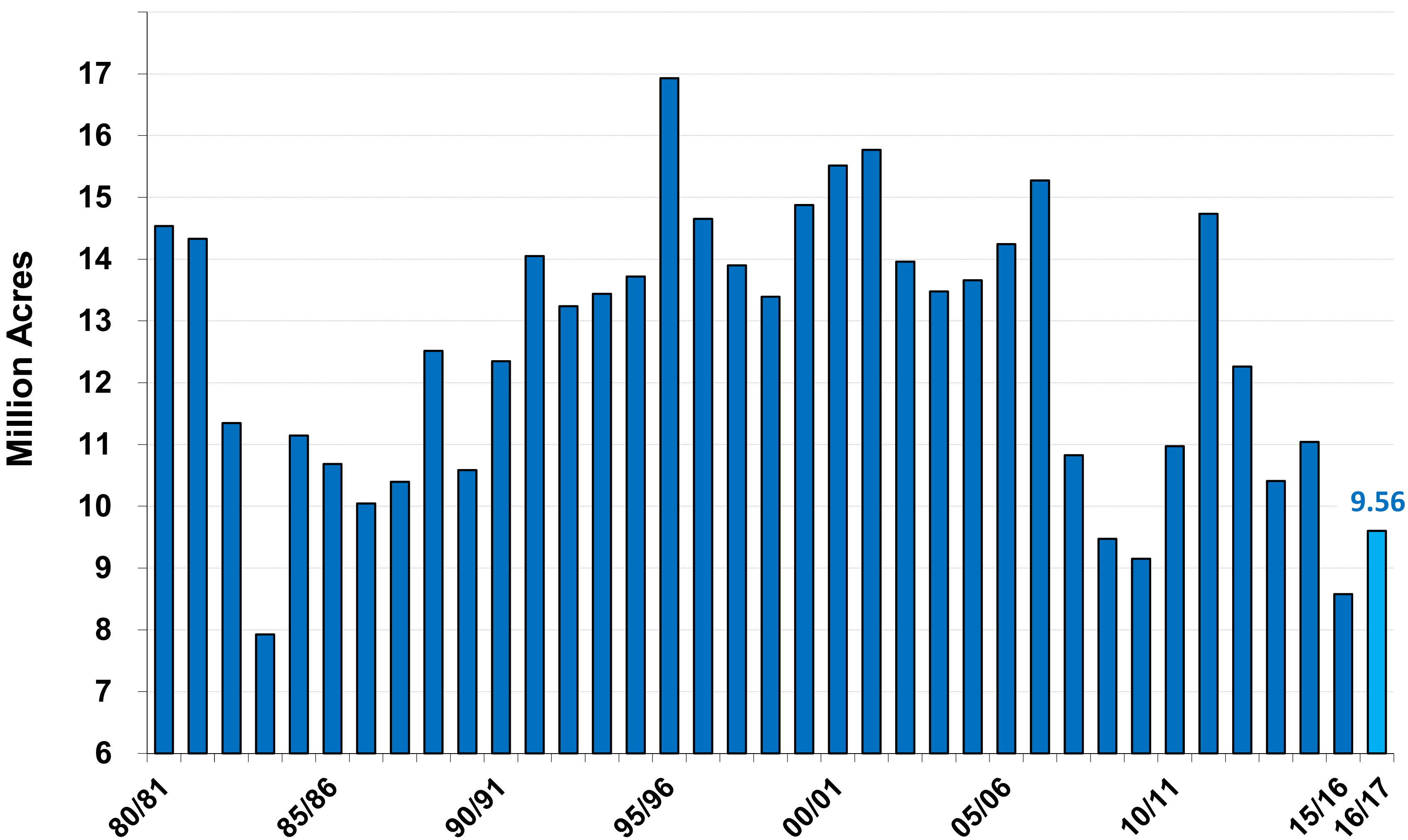
Cotton

U.S. COTTON SUPPLY AND DEMAND

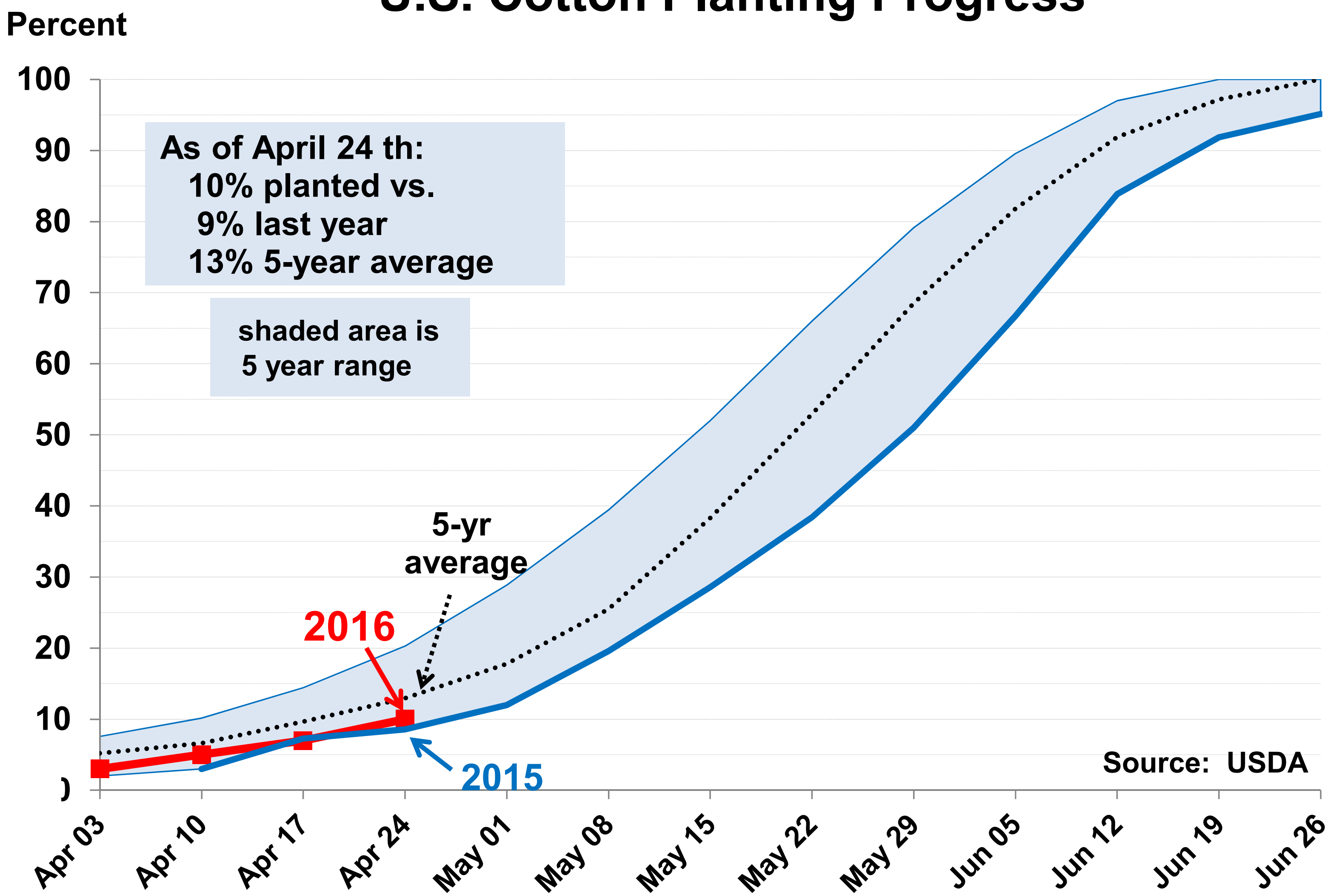
	USDA		Outlook Forum	Brock	
Marketing year begins Aug 1	14/15	15/16 Proj	16/17	15/16	16/17
ACREAGE (million acres)			9.56*		
Planted Area	11.04	8.58	~~9.40~~	8.58	9.60
Harvested Area	9.35	8.06	8.45	8.06	8.93
Yield	838	767	812	771	795
SUPPLY (million 480-lb. bales)					
Beginning Stocks (August 1)	2.35	3.70	3.60	3.70	3.63
Production	16.32	12.87	14.30	12.94	14.79
Imports	0.01	0.04	0.01	0.00	0.00
Total Supply	18.68	16.61	17.91	16.64	18.42
USAGE (million 480-lb. bales)					
Mill Use	3.58	3.60	3.60	3.60	3.70
Exports	11.25	9.50	10.70	9.40	10.90
Total Use	14.82	13.10	14.30	13.00	14.60
Unaccounted	0.16	0.01		0.01	0.00
STOCKS (million 480-lb. bales)					
Ending Stocks (July 31)	3.70	3.50	3.60	3.63	3.82
Farm Price (¢/lb)	61.30	58-59	58.0	60-62	55-65

* Prospective Plantings report

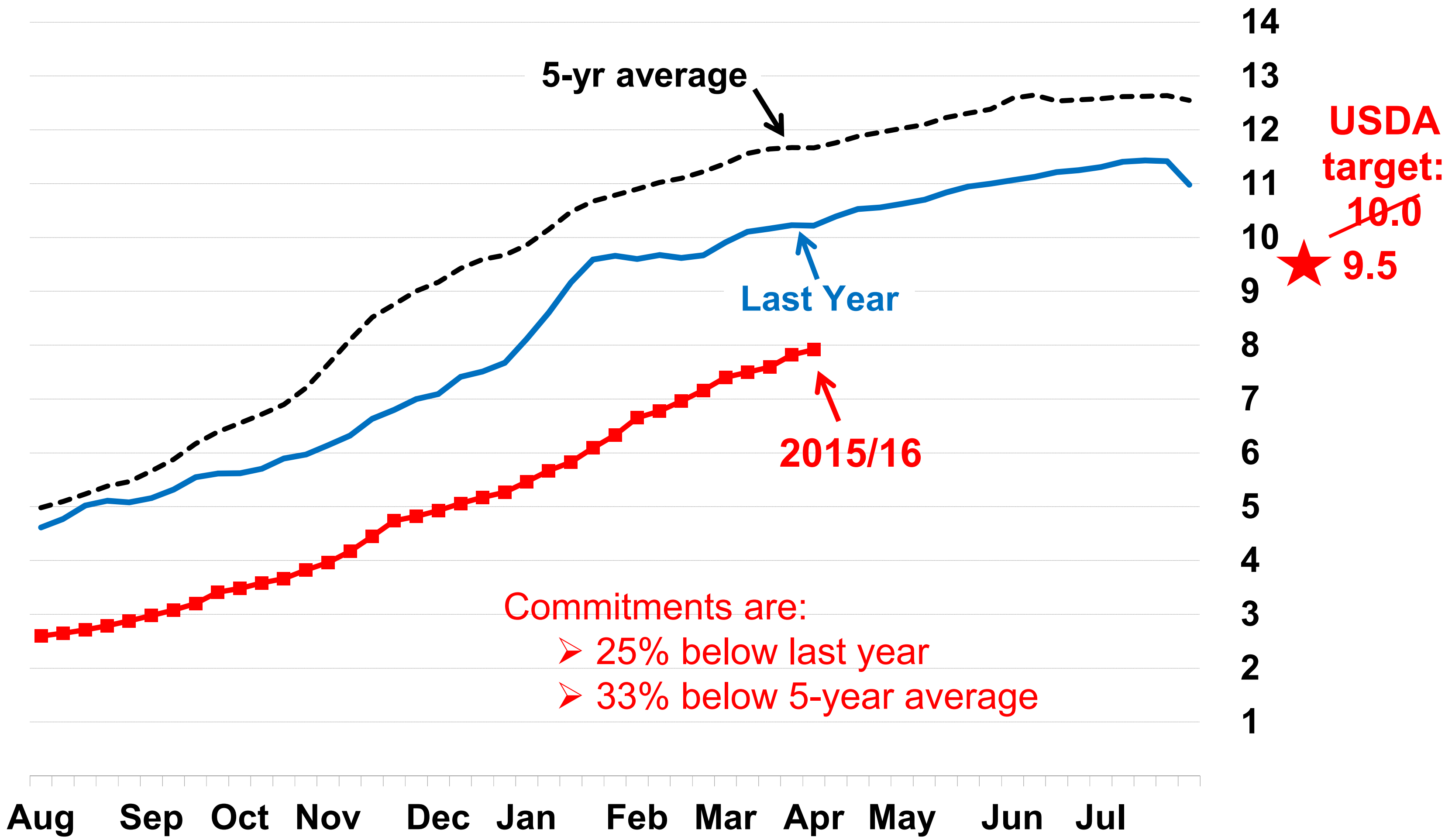
U.S. Cotton Planted Area



U.S. Cotton Planting Progress

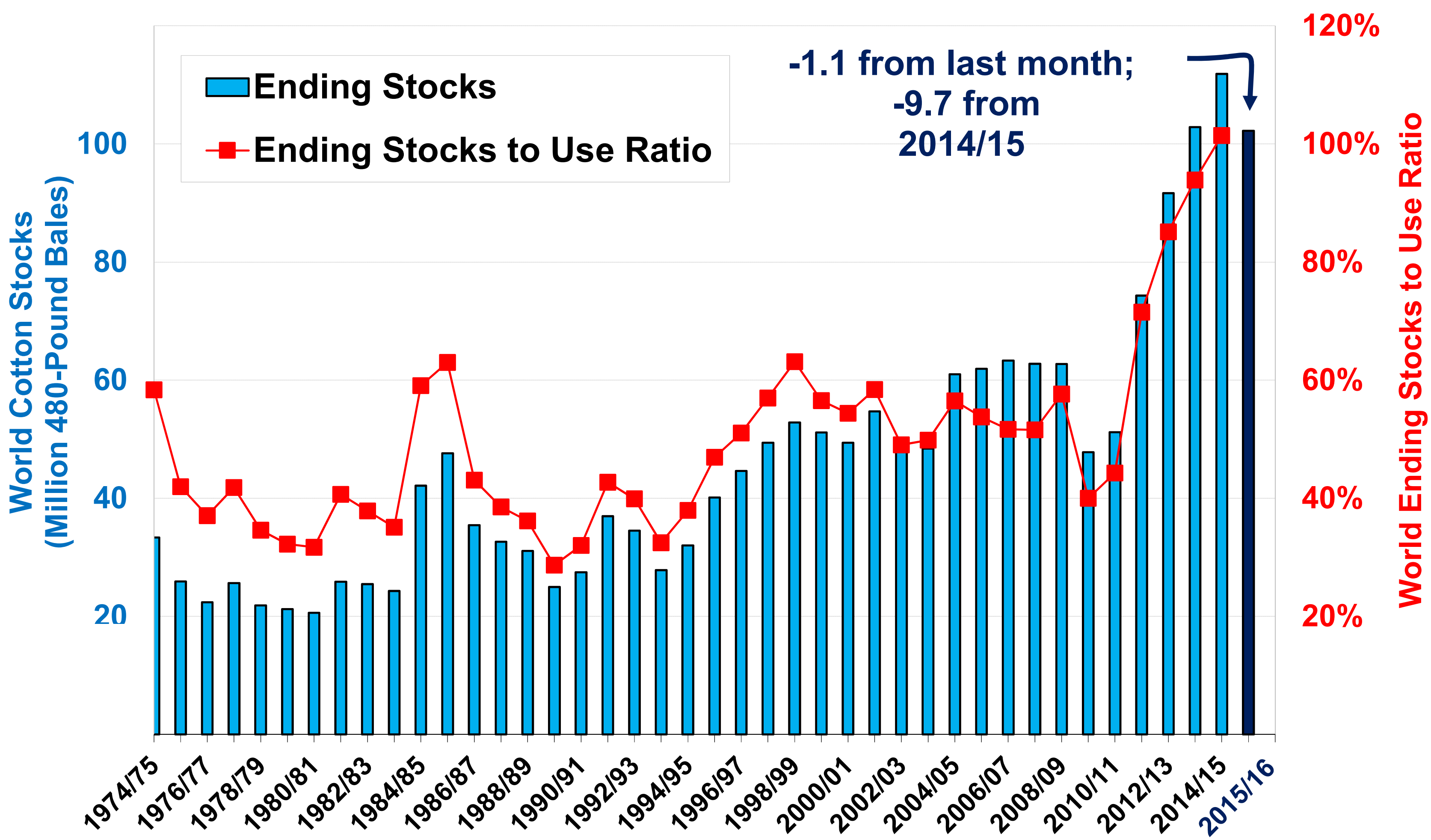


All Cotton Export Commitments (million bales)



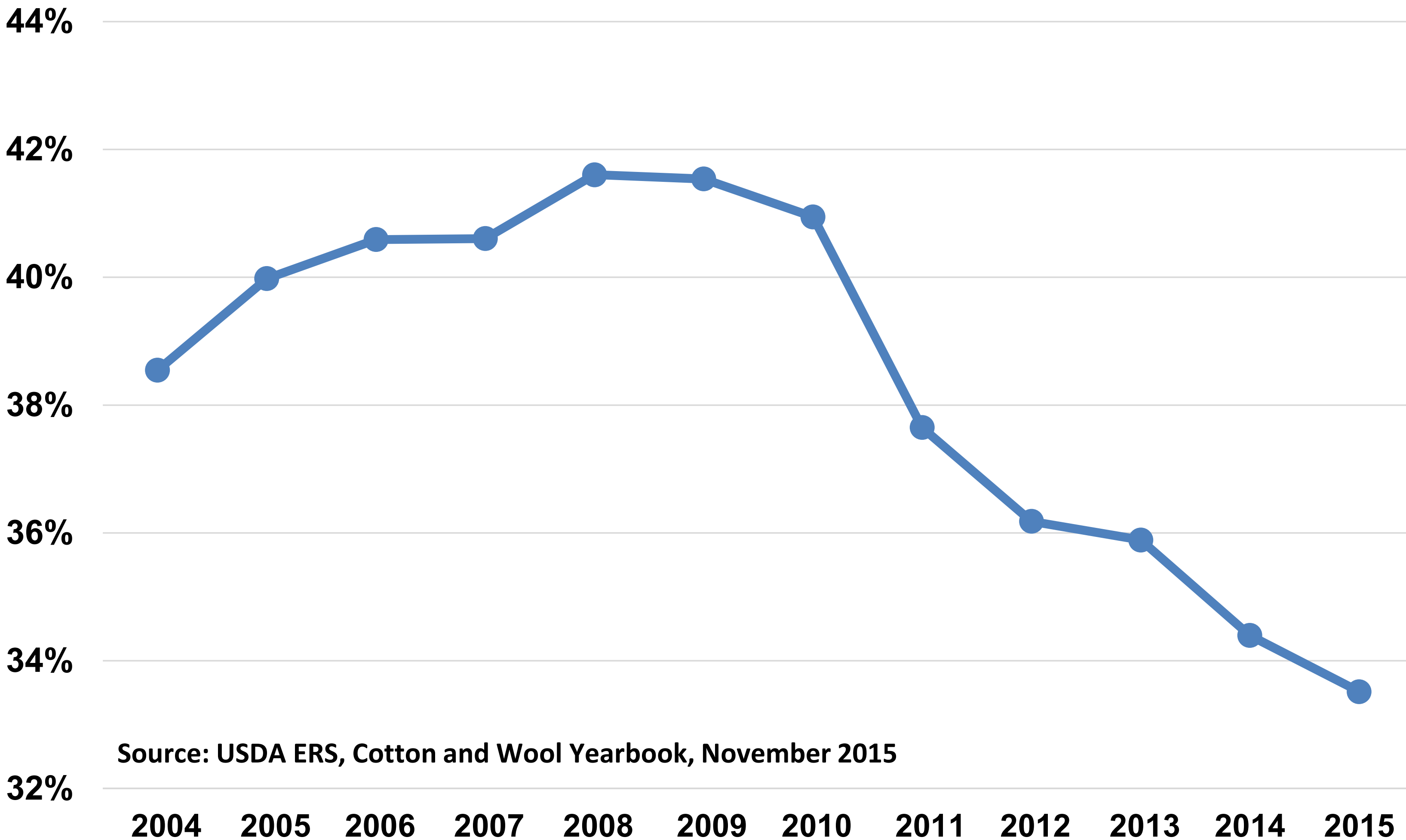
Source: USDA

World Cotton Ending Stocks and Stocks to Use

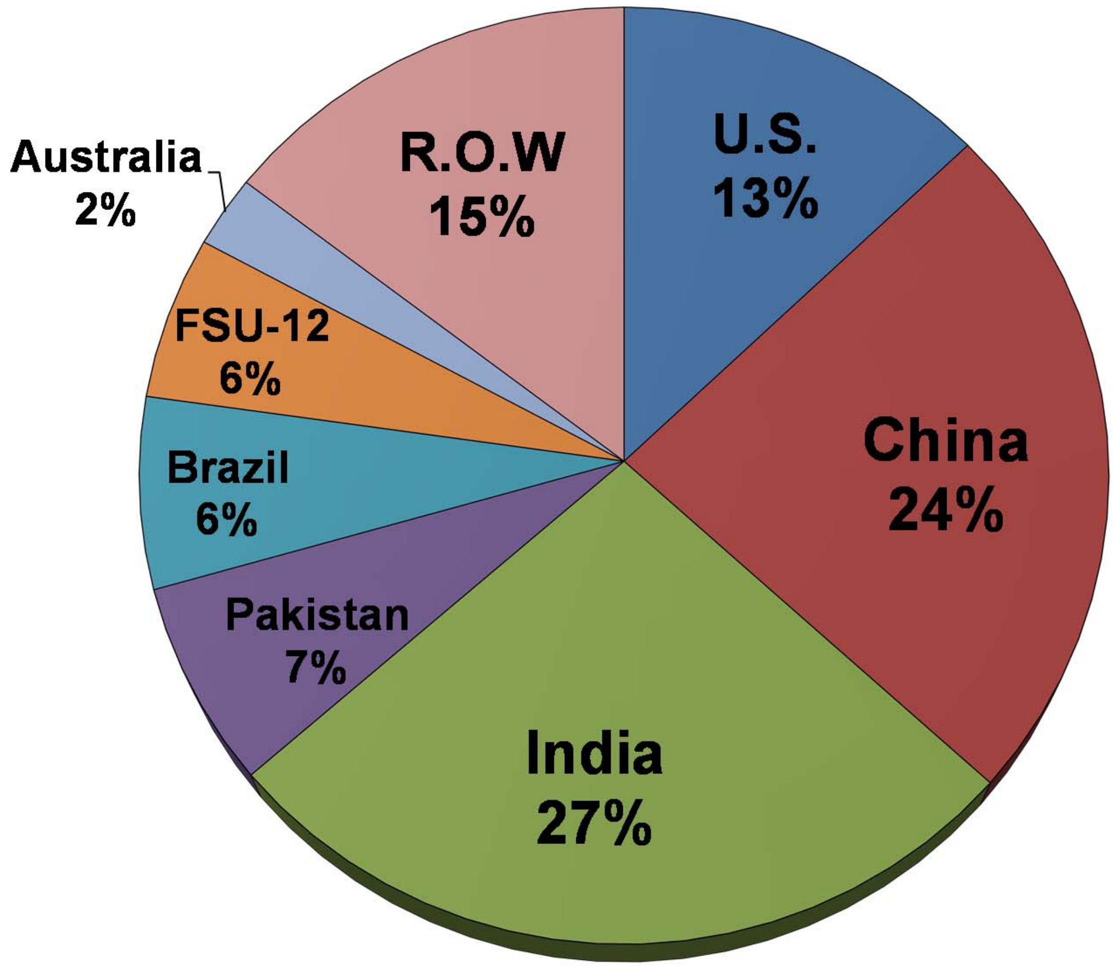


Source: USDA FAS, April 2016

Cotton's Share of Fiber Consumption, U.S.



Percentage of Estimated 2015/16 Global Cotton Production



Estimated total global production:

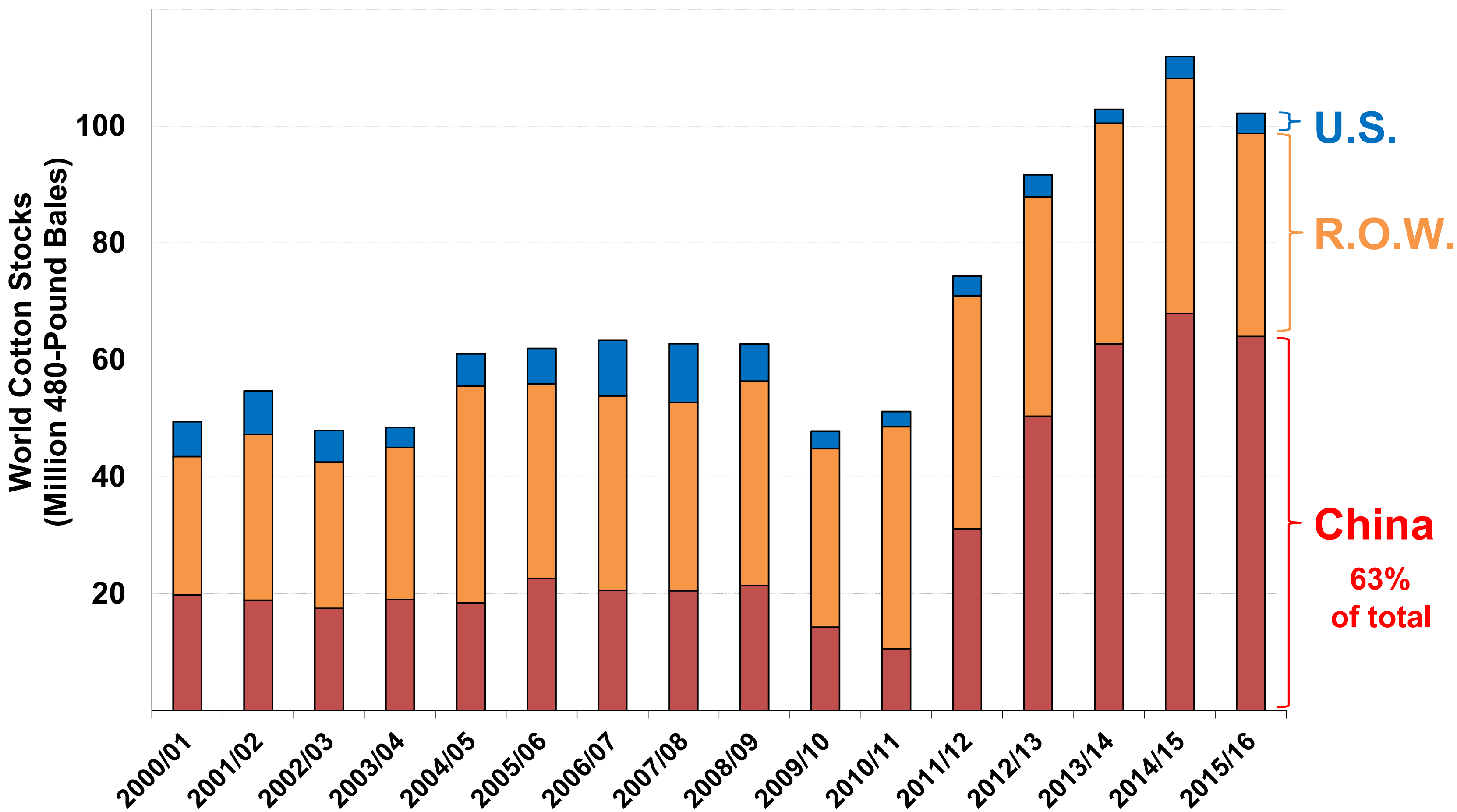
<u>2013/14</u>
120.4 Million bales

<u>2014/15</u>
119.1 Million bales

<u>2015/16</u>
99.8 Million bales

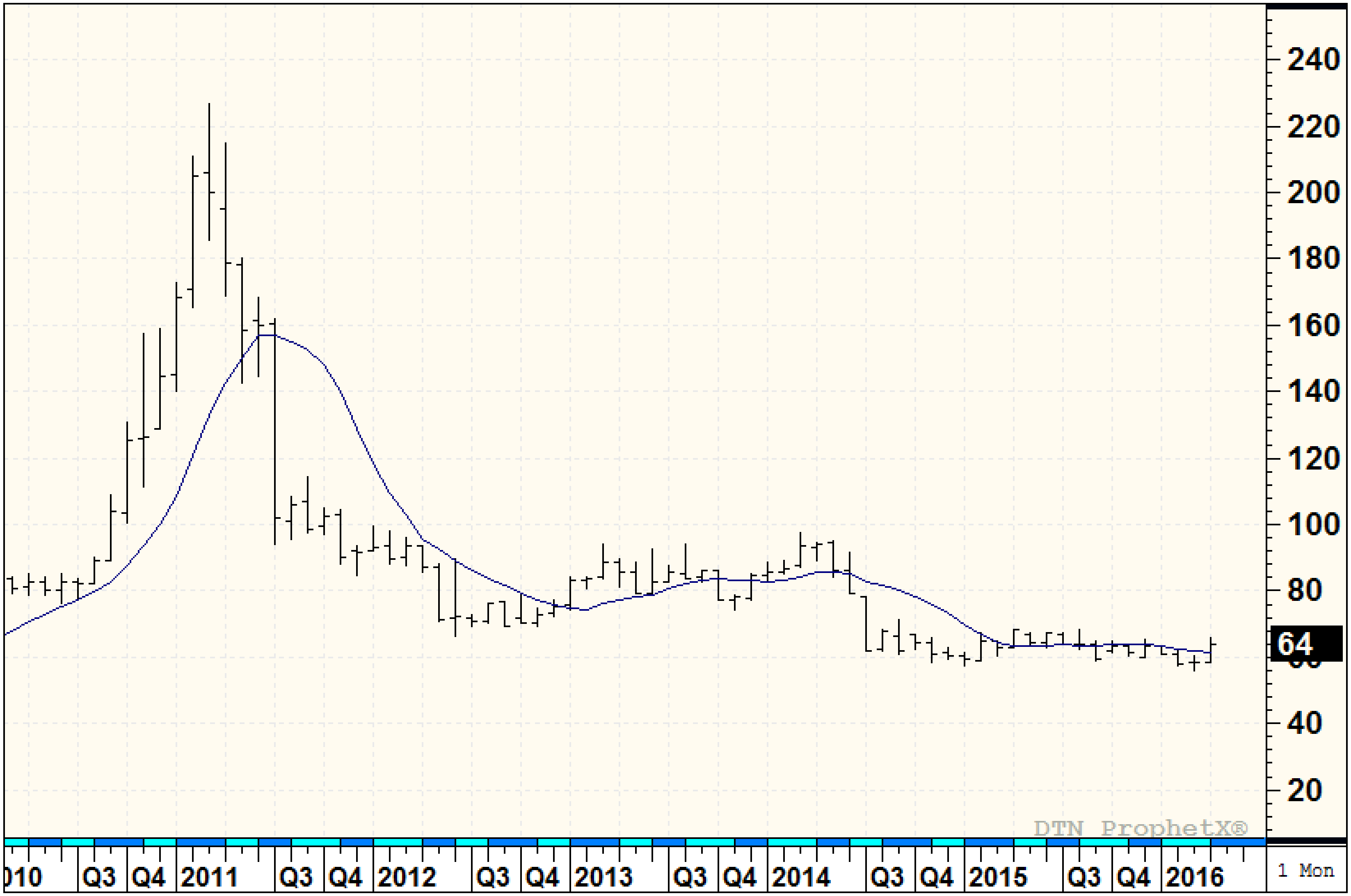
Source: USDA, April 2016

World Cotton Ending Stocks

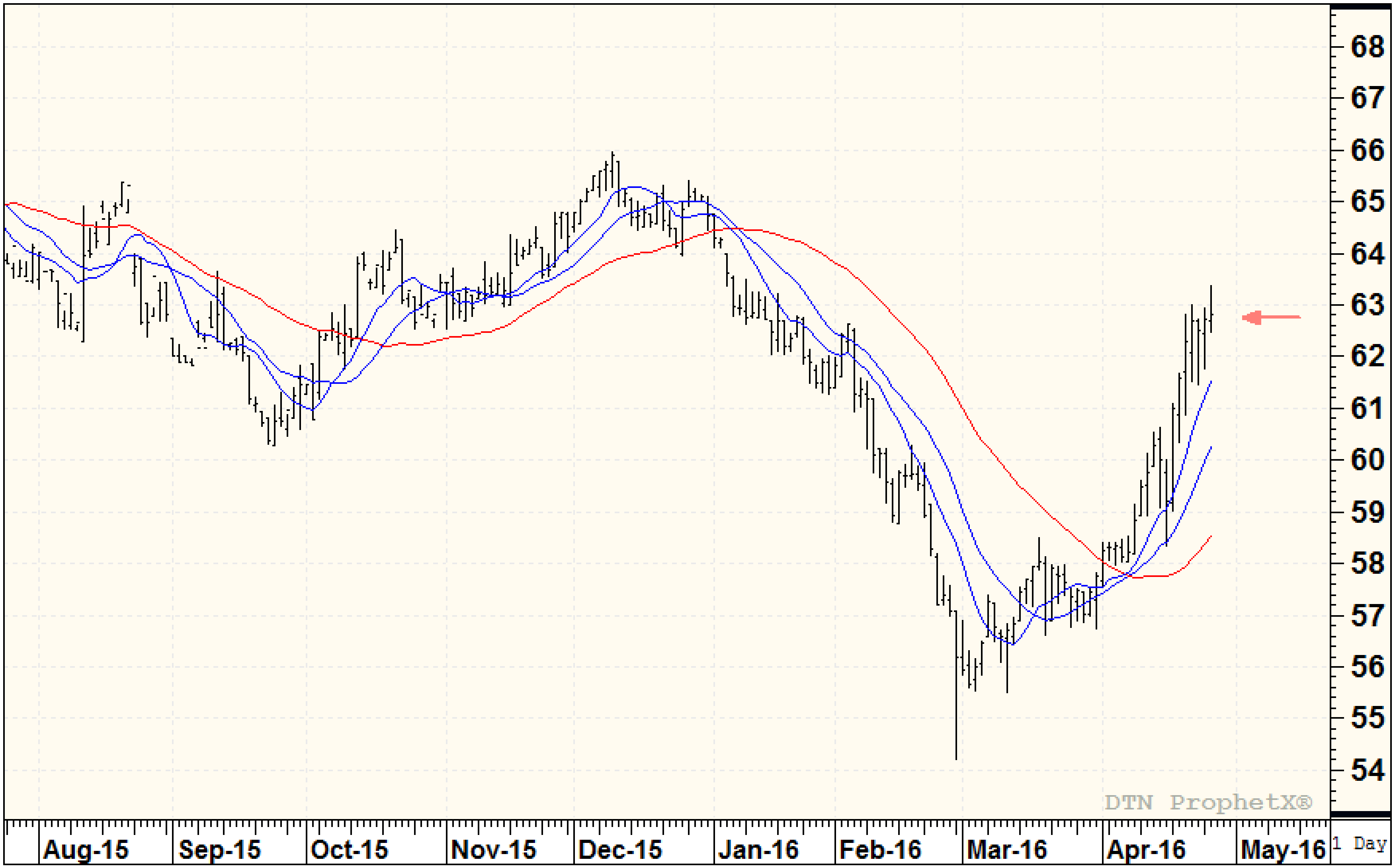


Source: USDA FAS, April 2016

Cotton, Monthly Continuous



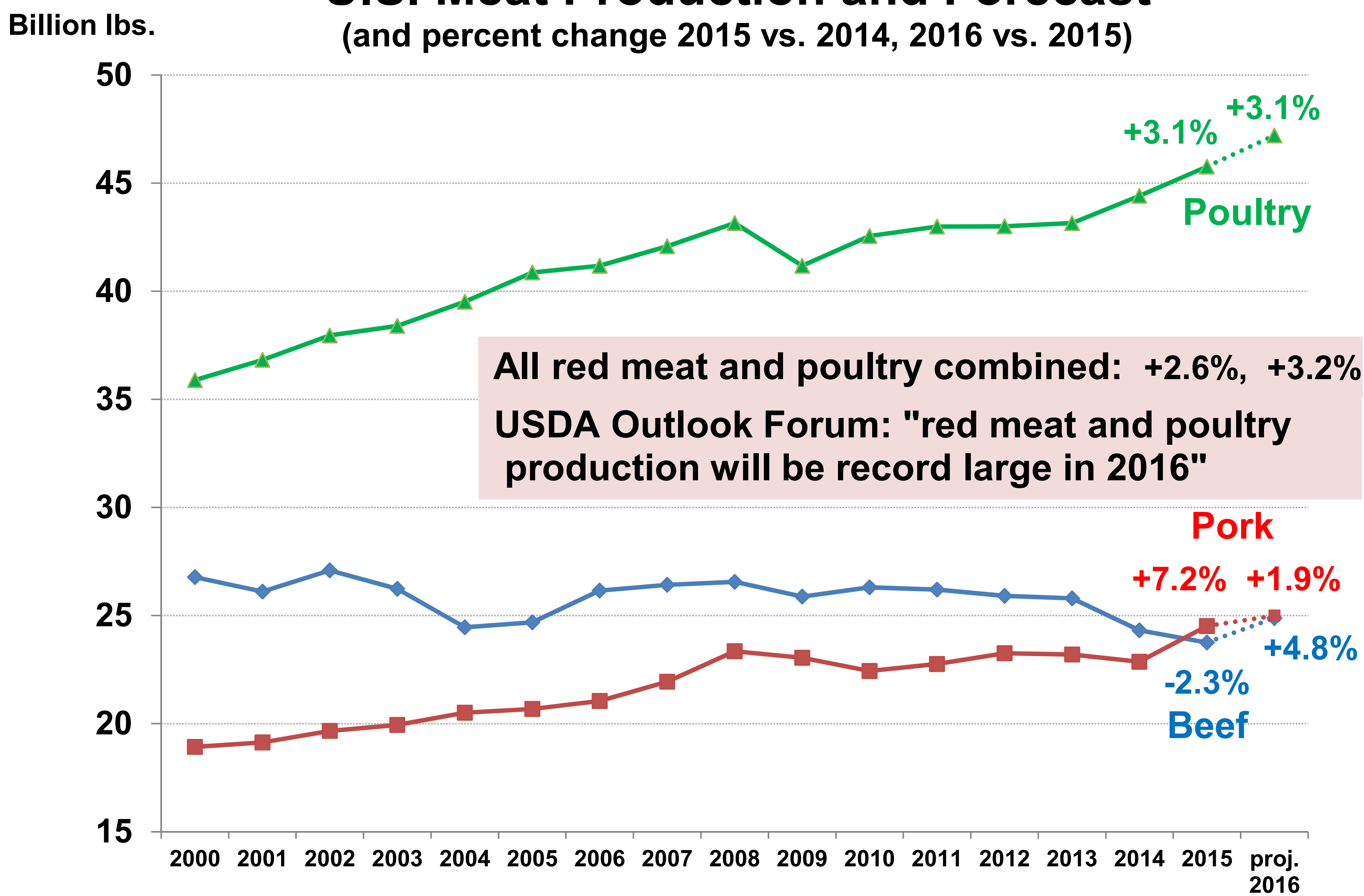
December 2016 Cotton Futures



Livestock Update

U.S. Meat Production and Forecast

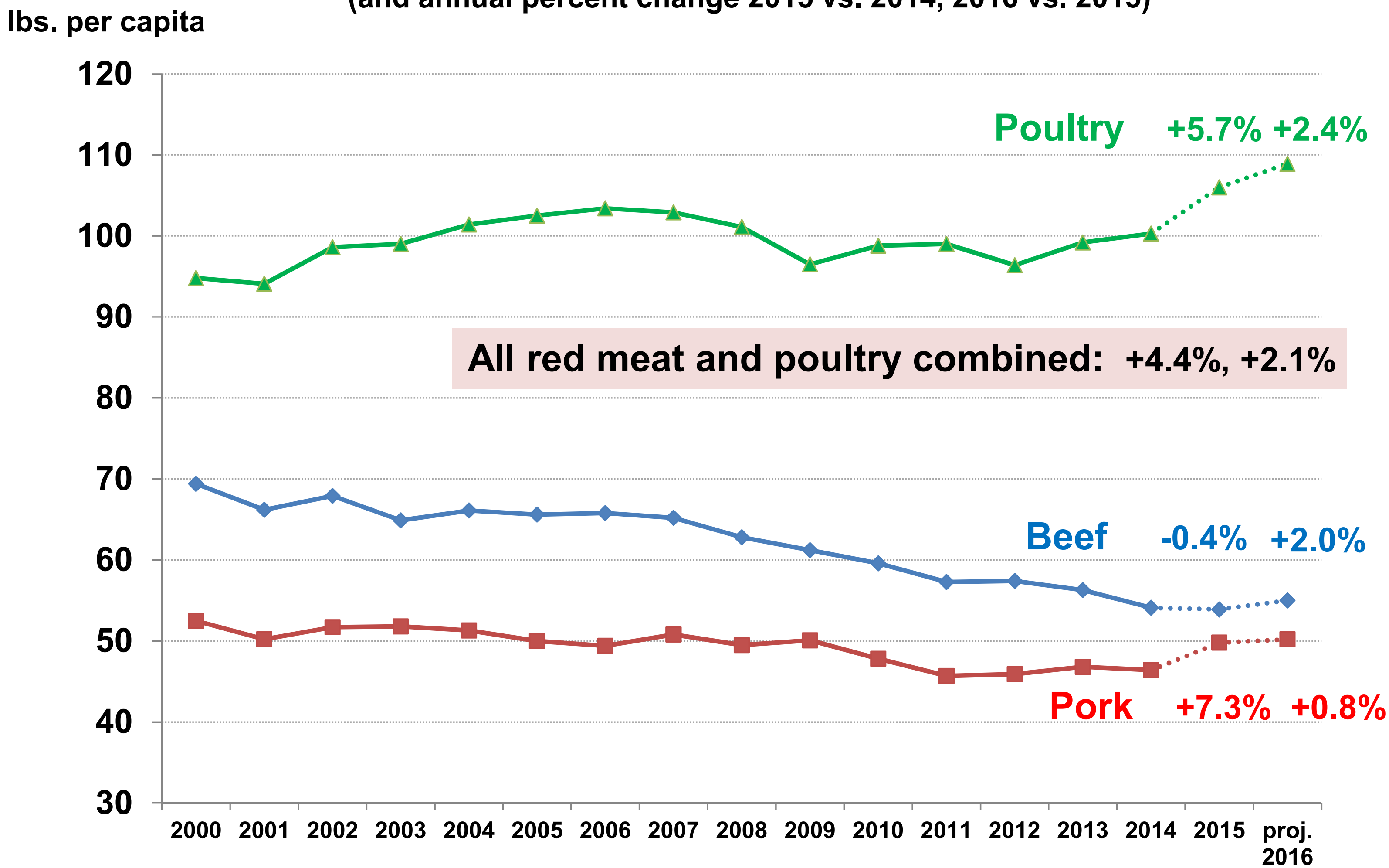
(and percent change 2015 vs. 2014, 2016 vs. 2015)



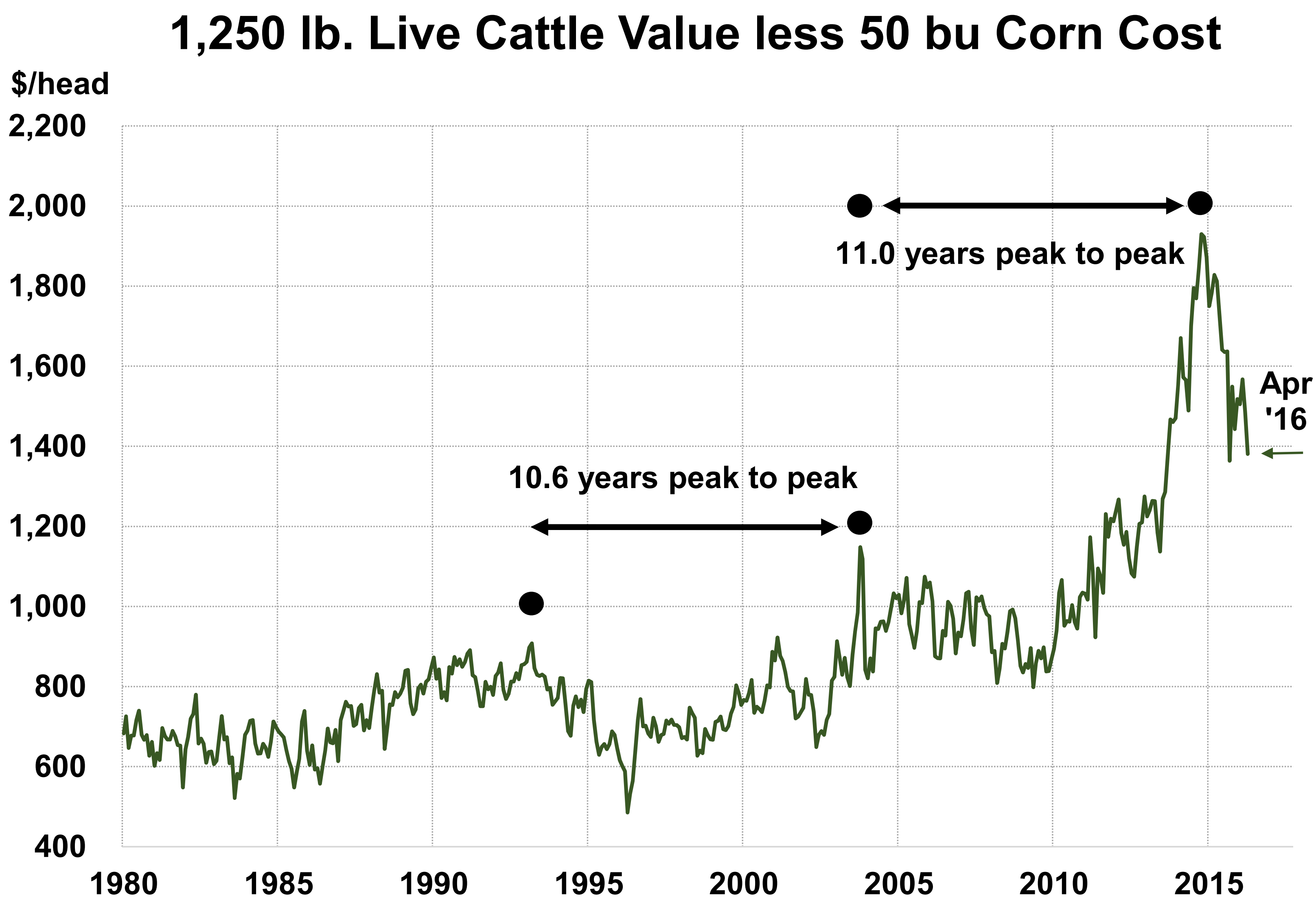
Source: USDA ERS, April 2016

U.S. Per Capita Meat Consumption

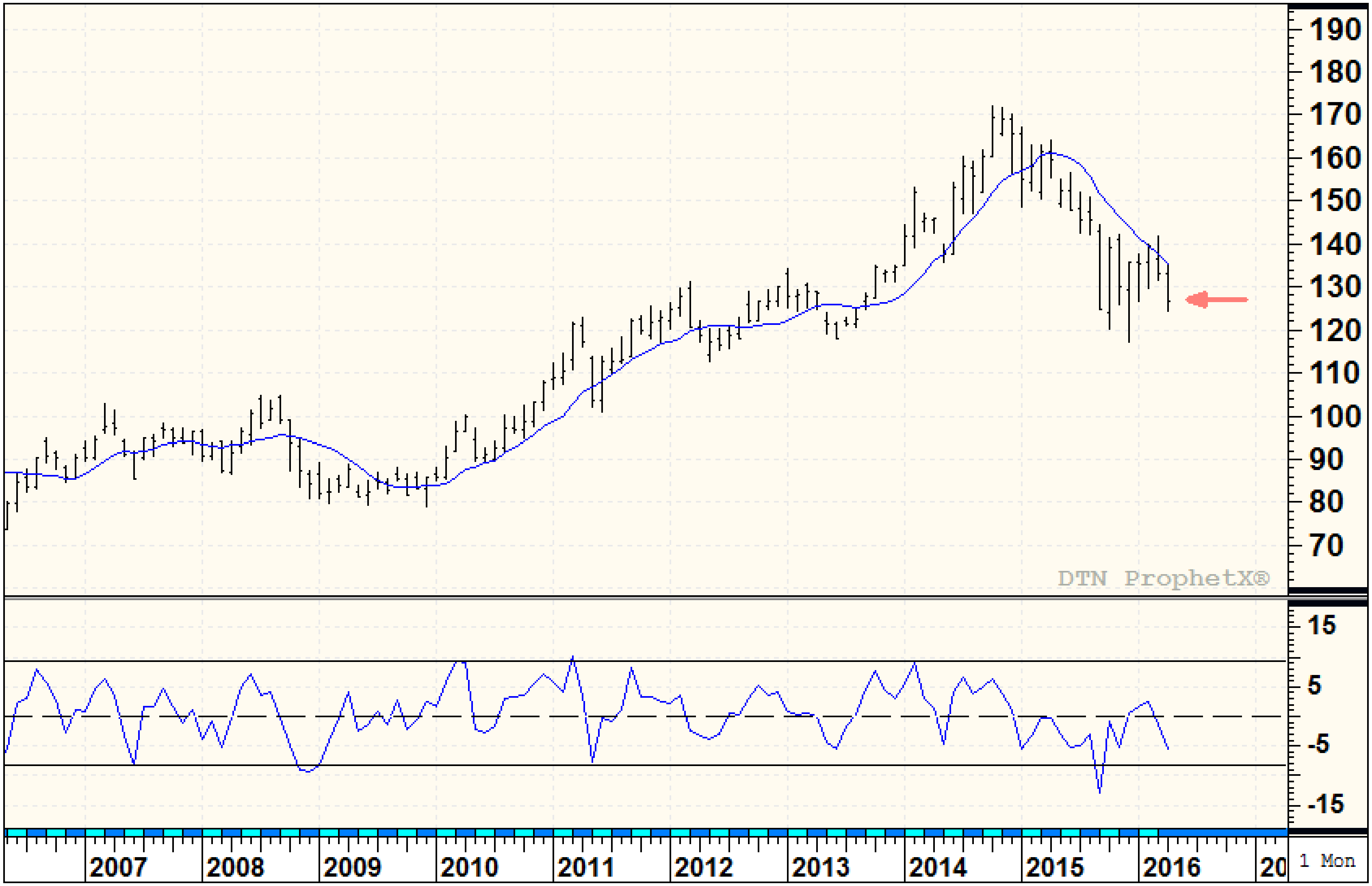
(and annual percent change 2015 vs. 2014, 2016 vs. 2015)



Source: USDA ERS, April 2016

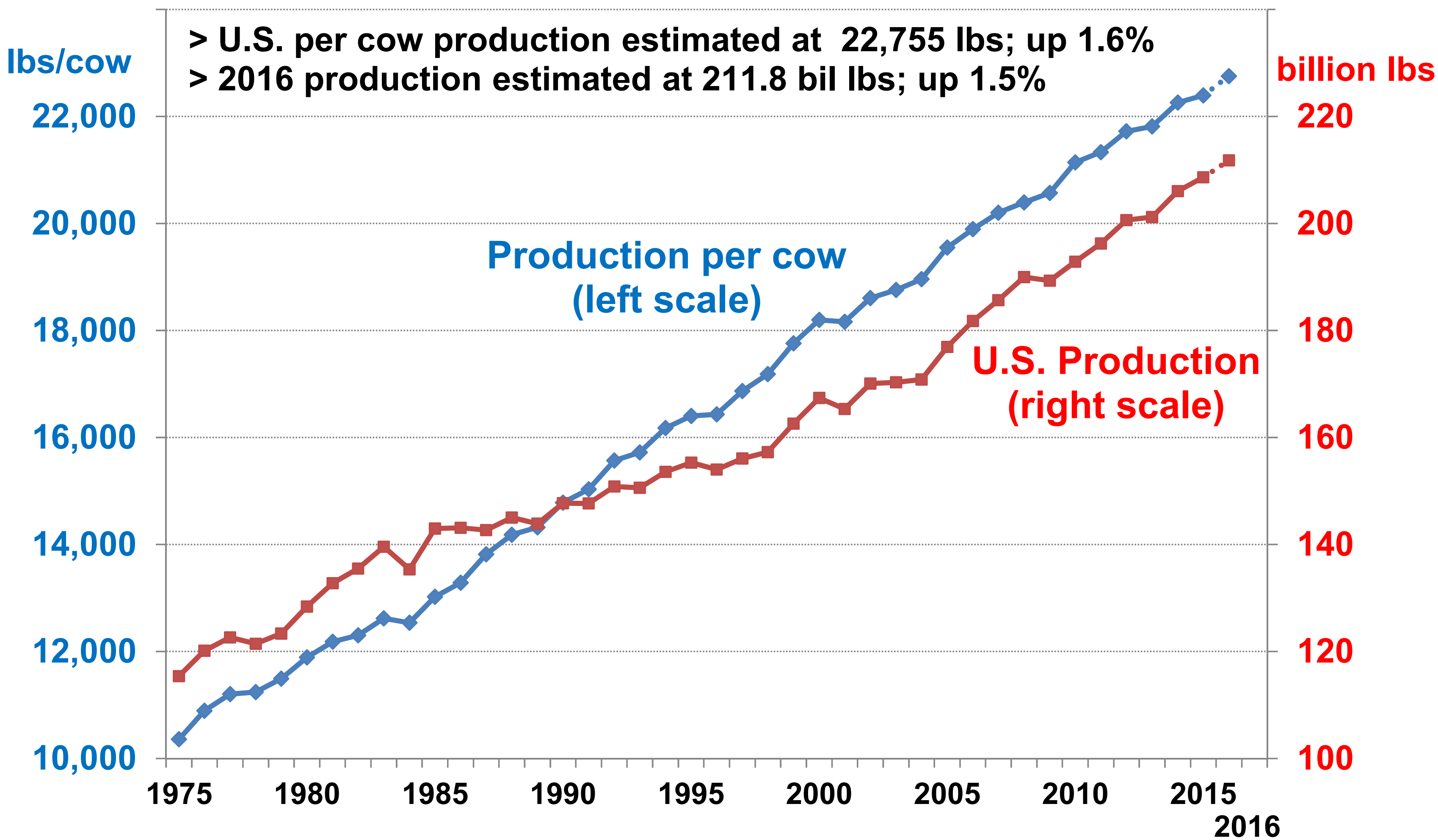

1,250 lb. Live Cattle Value less 50 bu Corn Cost
$/head
2,200
2,000
1,800
1,600
1,400
1,200
1,000
800
600
400
1980
1985
1990
1995
2000
2005
2010
2015
11.0 years peak to peak
10.6 years peak to peak
Apr '16

Continuous Monthly Live Cattle Futures



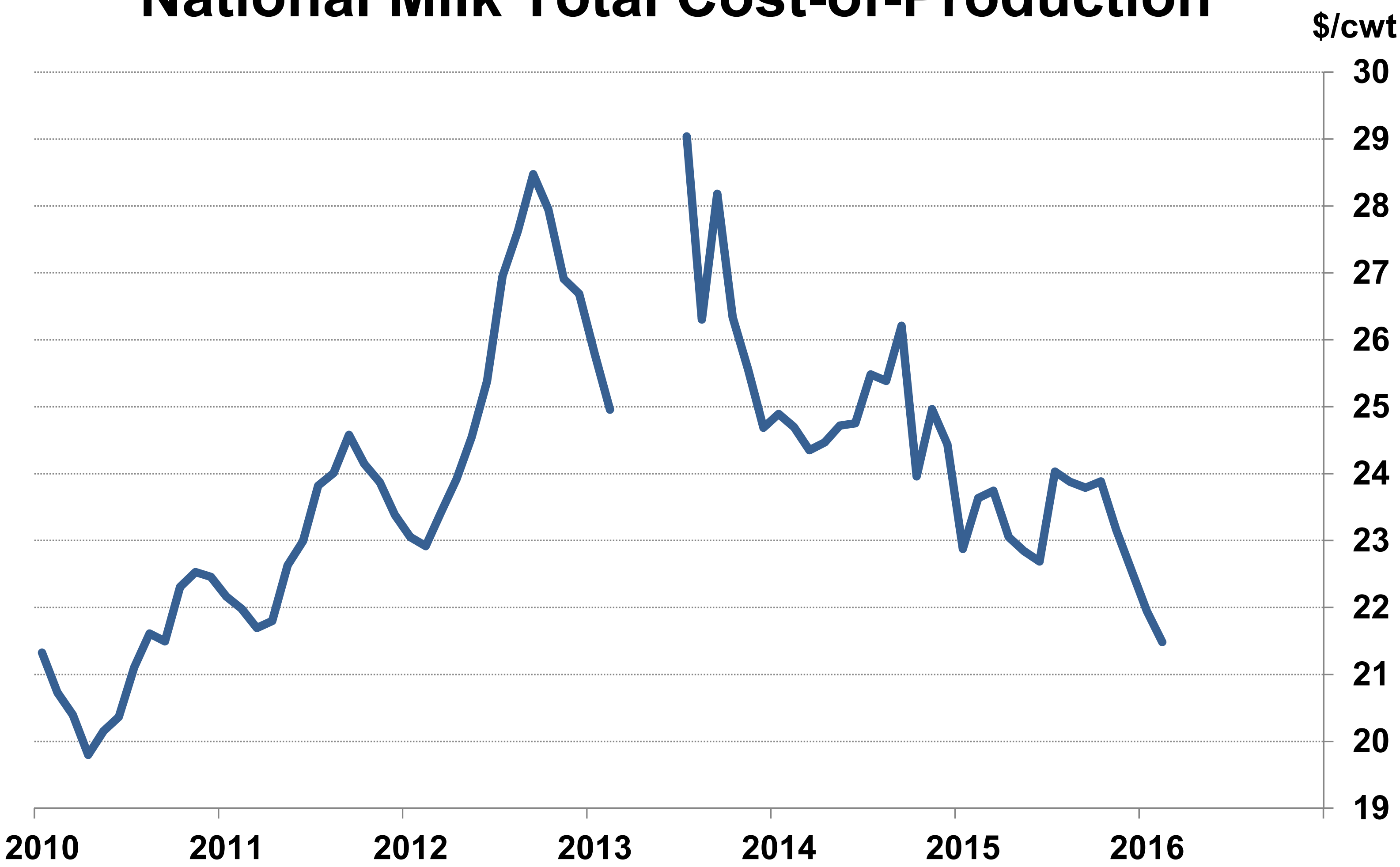
Dairy

U.S. Milk Production



Source: USDA NASS, April, 2016

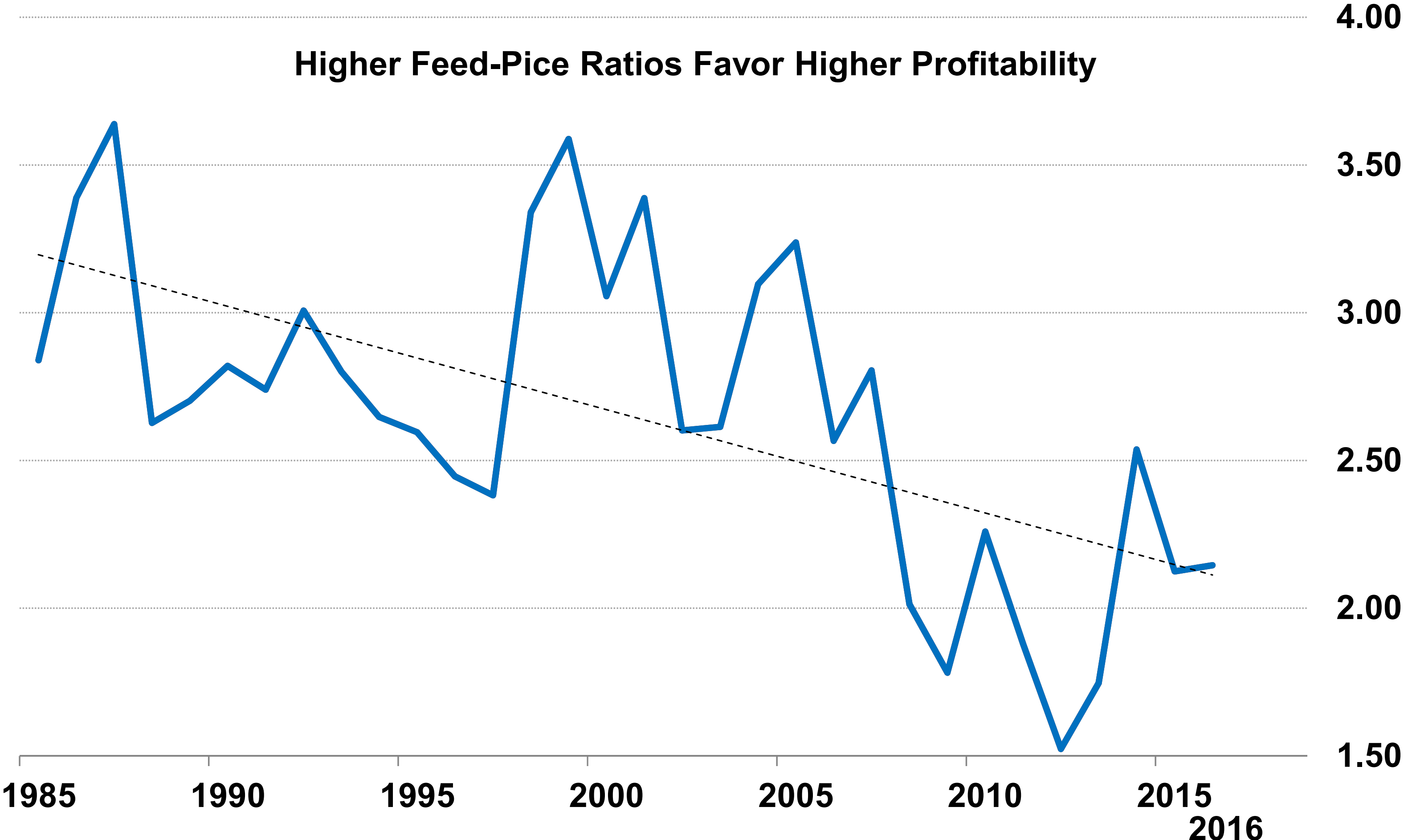
National Milk Total Cost-of-Production



Source: USDA ERS

National Milk/Feed Price Ratio

Pounds of 16-percent-protein mixed dairy feed equal
in value to 1 pound of whole milk.



Source: USDA

For More Information on the Brock Report, write, email or call

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