



## Biodiesel Usage Projections & Soybean Balance Sheet (mil. bu.)

Updated 12/21/2015

Year: (production/marketing) <sup>1/</sup>

Yield (bu. per acre)

Long-term historical yield probability:

### Soybean Supplies:

Planted acres (million)  
Harvested acres (million)  
Production (mil. bu.)  
Beginning carryover (mil. bu.)  
Imports

#### Total Supply

### Total Soybean Usage:

Crush (mil. bu.)  
Seed & residual (mil. bu.)  
Exports (mil. bu.)

#### Total Usage

### Oil Yield, lbs./ bu. of soybeans <sup>2/</sup>

### Biodiesel Usage:

Soybean oil use for biodiesel, mil. lbs.  
Use for biodiesel, bushel equivalent  
Soybean oil for biodiesel, % of oil from crop  
Soybean oil for biodiesel, % of oil from crush

### Ending Soybean Carryover: (mil. bu.)

Carryover as percent of supply  
Carryover, weeks of total use

### Prices:

U.S. weighted avg. farm price  
Iowa weighted avg. farm price  
Harvest price (central Iowa)  
Nov. futures price (harvest avg.)  
**Soy meal, Decatur, \$/T 48% protein**  
Soy oil, \$ per cwt., marketing year avg.

### Year-to-Year Change in Mil. Bu. soybean use:

Crush  
Seed & residual  
Exports  
**Total Usage**

	Historic			Est. 2014-15	Prelim 2015-16	Proj. 2016-17		
	2011-12	2012-13	2013-14			Low	Med.	High
Yield (bu. per acre)	41.9	40.0	44.0	47.5	48.3	44.0	47.5	48.5
Long-term historical yield probability:								
<b>Soybean Supplies:</b>								
Planted acres (million)	75.0	77.2	76.8	83.3	83.2	83.5	83.5	83.5
Harvested acres (million)	73.8	76.1	76.3	82.6	82.4	82.8	82.8	82.8
Production (mil. bu.)	3,094	3,042	3,358	3,927	3,981	3,643	3,933	4,016
Beginning carryover (mil. bu.)	215	169	141	92	191	425	425	425
Imports	16	41	72	33	31	31	31	30
<b>Total Supply</b>	<b>3,325</b>	<b>3,252</b>	<b>3,570</b>	<b>4,052</b>	<b>4,203</b>	<b>4,100</b>	<b>4,389</b>	<b>4,472</b>
<b>Total Soybean Usage:</b>								
Crush (mil. bu.)	1,703	1,689	1,734	1,873	1,915	1,915	1,925	1,935
Seed & residual (mil. bu.)	88	105	98	145	133	135	129	127
Exports (mil. bu.)	1,365	1,317	1,647	1,843	1,730	1,730	1,730	1,730
<b>Total Usage</b>	<b>3,156</b>	<b>3,111</b>	<b>3,478</b>	<b>3,861</b>	<b>3,778</b>	<b>3,780</b>	<b>3,784</b>	<b>3,792</b>
<b>Oil Yield, lbs./ bu. of soybeans <sup>2/</sup></b>	<b>11.6</b>	<b>11.7</b>	<b>11.7</b>	<b>11.4</b>	<b>11.7</b>	<b>11.6</b>	<b>11.6</b>	<b>11.6</b>
<b>Biodiesel Usage:</b>								
Soybean oil use for biodiesel, mil. lbs.	4,870	4,689	4,800	5,050	5,250	5,250	5,250	5,250
Use for biodiesel, bushel equivalent	420	402	412	442	451	453	453	453
Soybean oil for biodiesel, % of oil from crop	13.6%	13.2%	12.3%	11.3%	11.3%	12.4%	11.5%	11.3%
Soybean oil for biodiesel, % of oil from crush	24.6%	23.8%	23.8%	23.6%	23.5%	23.6%	23.5%	23.4%
<b>Ending Soybean Carryover: (mil. bu.)</b>	<b>169</b>	<b>141</b>	<b>92</b>	<b>191</b>	<b>425</b>	<b>320</b>	<b>605</b>	<b>680</b>
Carryover as percent of supply	5.1%	4.3%	2.6%	4.7%	10.1%	7.8%	13.8%	15.2%
Carryover, weeks of total use	2.8	2.4	1.4	2.6	5.8	4.4	8.3	9.3
<b>Prices:</b>								
U.S. weighted avg. farm price	\$12.50	\$14.40	\$13.00	\$10.10	\$8.50	\$8.80	\$8.30	\$7.95
Iowa weighted avg. farm price	\$12.40	\$14.30	\$12.90	\$10.00	\$8.40	\$8.70	\$8.20	\$7.85
Harvest price (central Iowa)	\$11.40	\$12.20	\$12.20	\$9.40	\$8.15	\$8.40	\$7.80	\$7.50
Nov. futures price (harvest avg.)	\$12.10	\$12.80	\$12.75	\$9.95	\$8.75	\$8.95	\$8.35	\$8.05
<b>Soy meal, Decatur, \$/T 48% protein</b>	<b>\$394</b>	<b>\$468</b>	<b>\$490</b>	<b>\$368</b>	<b>\$305</b>	<b>\$315</b>	<b>\$295</b>	<b>\$280</b>
Soy oil, \$ per cwt., marketing year avg.	<b>\$51.90</b>	<b>\$47.13</b>	<b>\$38.23</b>	<b>\$31.60</b>	<b>\$29.00</b>	<b>\$30.00</b>	<b>\$29.75</b>	<b>\$29.25</b>
<b>Year-to-Year Change in Mil. Bu. soybean use:</b>								
Crush	55	-14	45	139	42	42	52	62
Seed & residual	-43	17	-8	48	-12	-10	-16	-18
Exports	-137	-48	330	196	-113	-113	-113	-113
<b>Total Usage</b>	<b>-124</b>	<b>-45</b>	<b>367</b>	<b>383</b>	<b>-83</b>	<b>-81</b>	<b>-77</b>	<b>-69</b>

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### Notes:

<sup>1/</sup> Marketing year - starts at Sept. 1 of the production year and ends August 31 of the following year. For example, the 2011 crop is marketed from Sept. 1, 2011 to August 31, 2012.

<sup>2/</sup> Long-term probabilities reflect historical frequencies of deviations of indicated yield plus or minus a few bushels from long-run trend yields.

Yields sharply below the long-run trend occurred only in about 18% of the years since the late 1930s.

### Key Balance Sheet Assumptions:

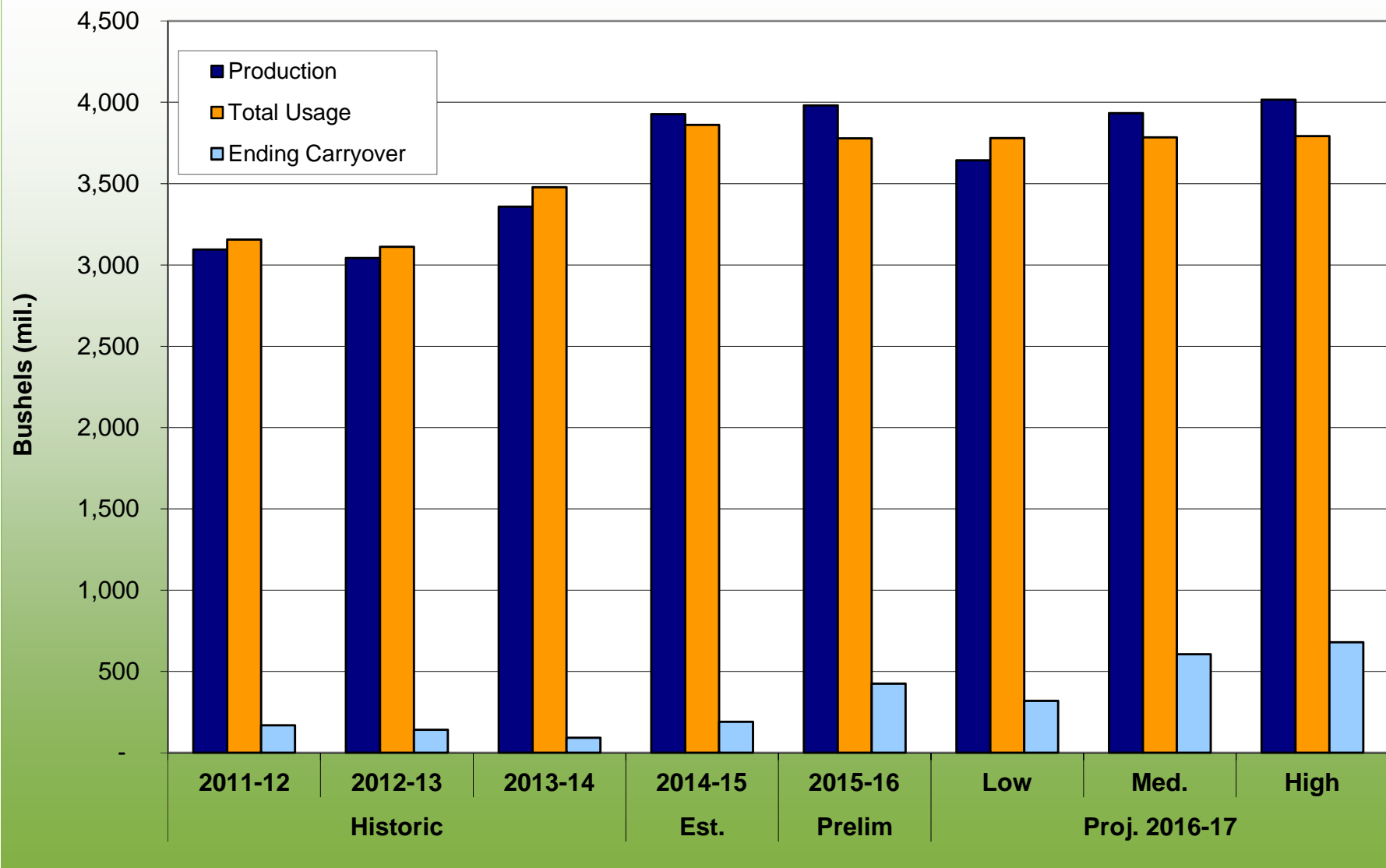
1. No changes in Conservation Reserve Program.
2. Crude oil (petroleum) price for the next 18 months is in the \$45-\$60/barrel range.
3. U.S. Ethanol & biodiesel mandates are enforced as established by EPA.
4. U.S. & World economies accelerate slightly in 2014 and 2015.
5. U.S. dollar remains strong relative to foreign currencies through 2016.

... and justice for all

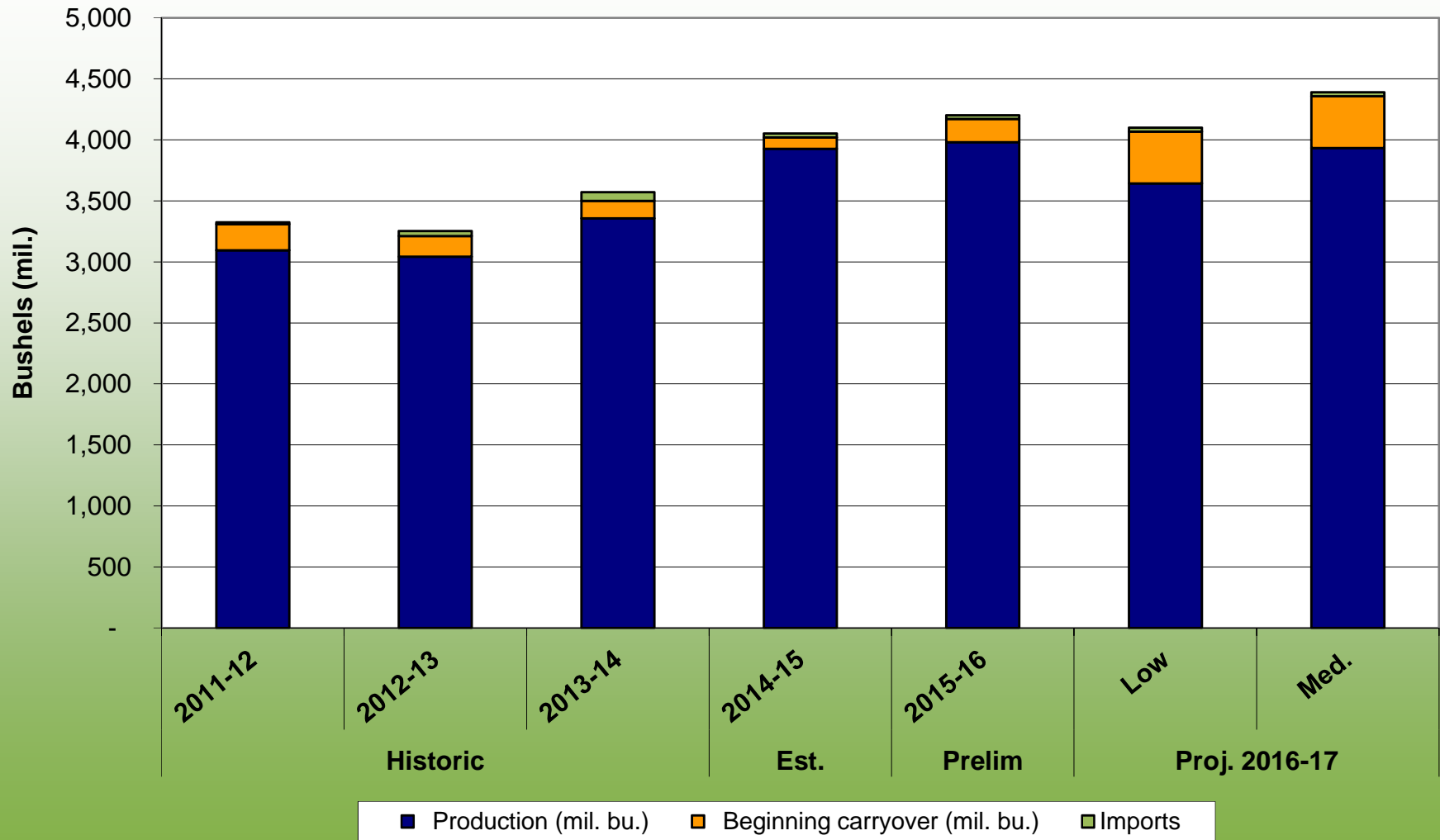
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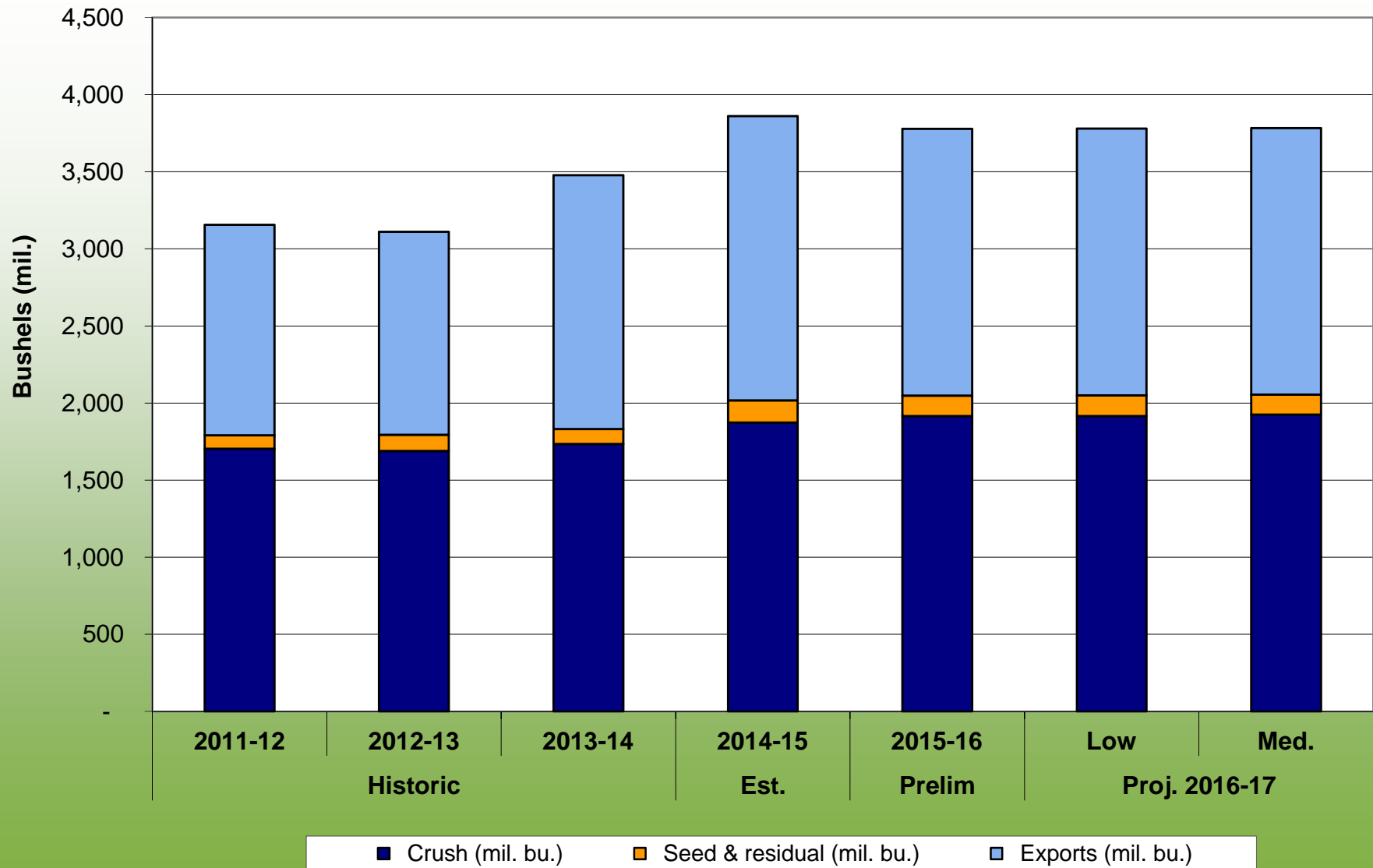
## Soybean Production, Usage, and Carryover



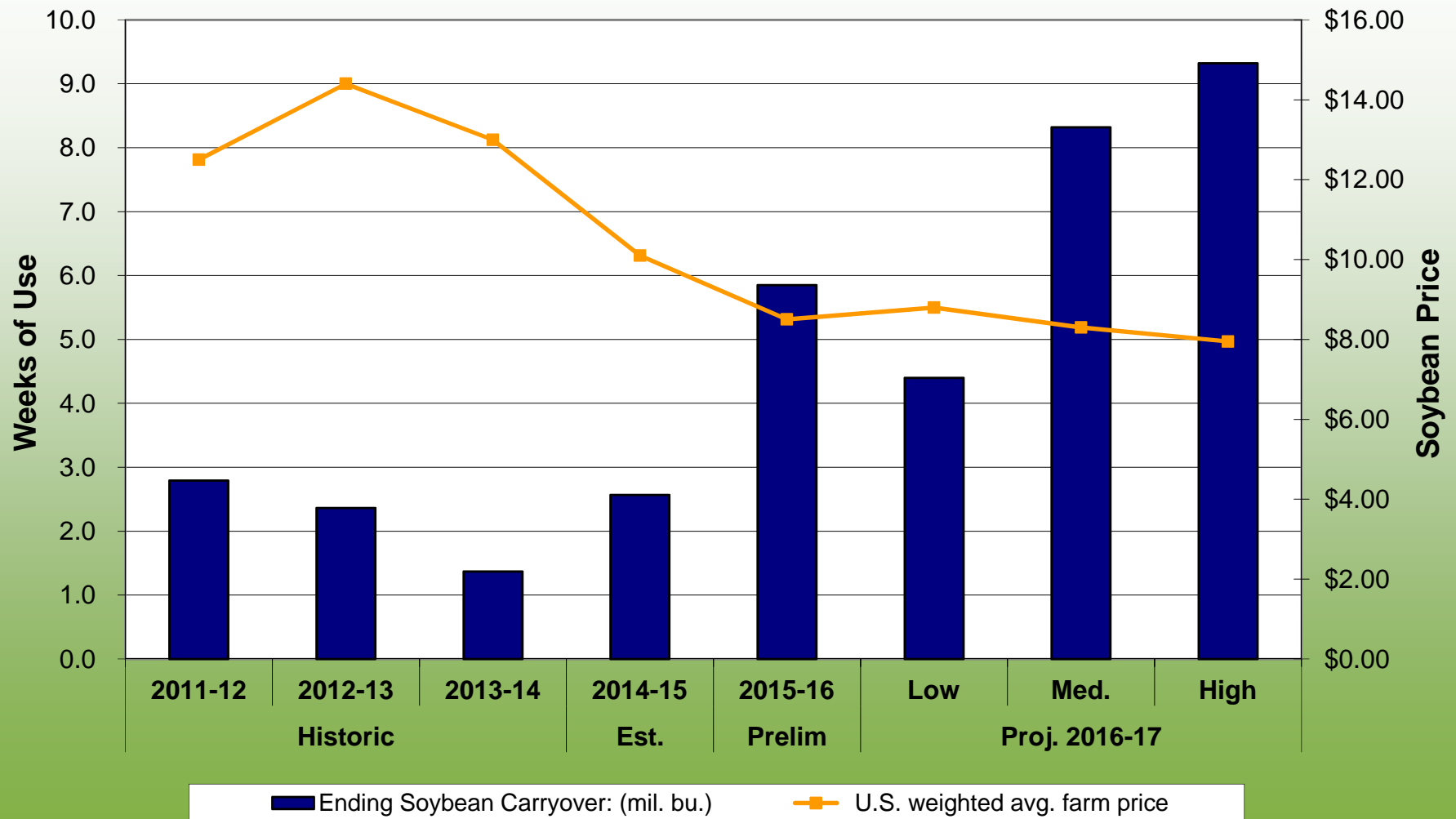
## Total Soybean Supply (beginning carryover, production, imports)



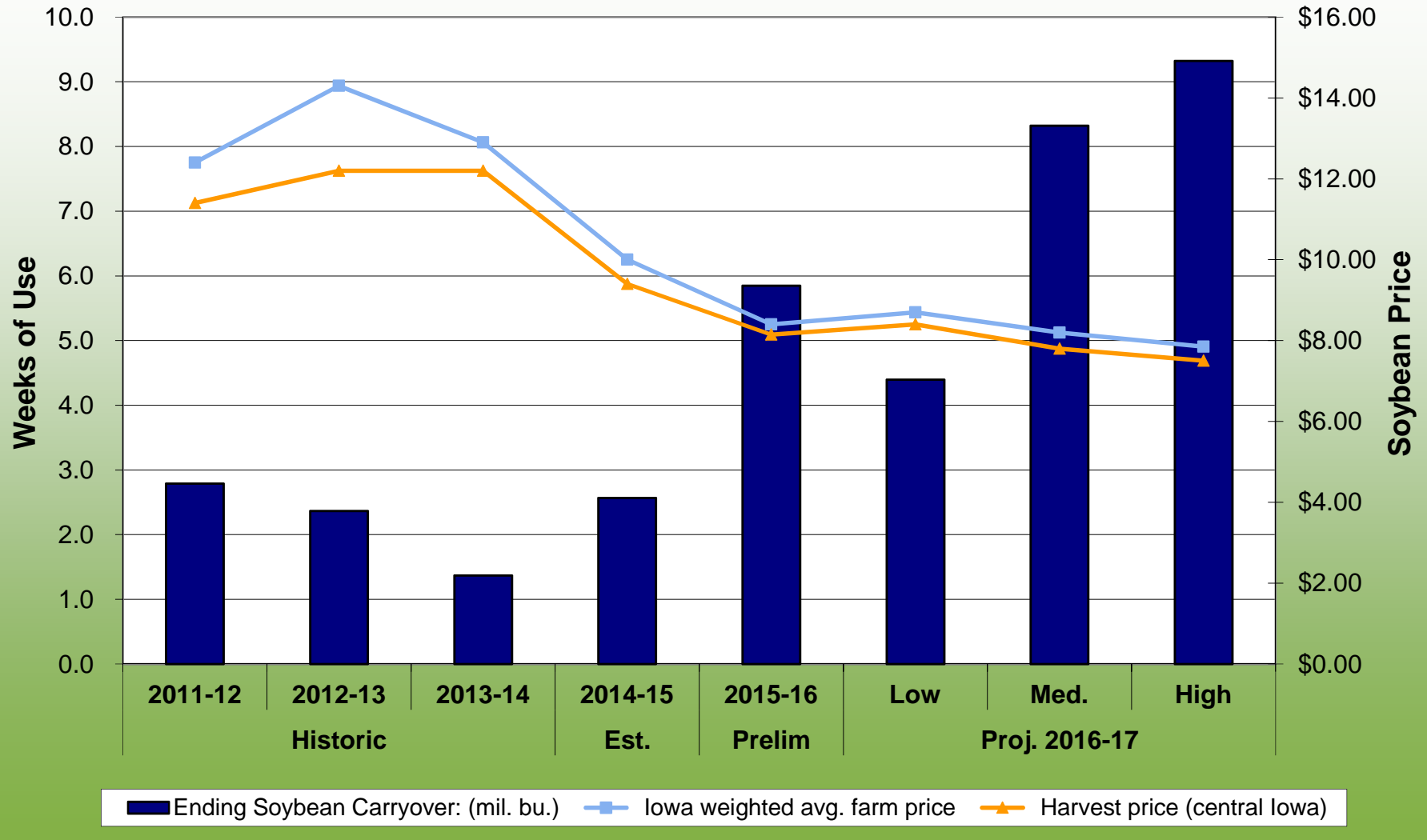
## Usage of Soybean Supply



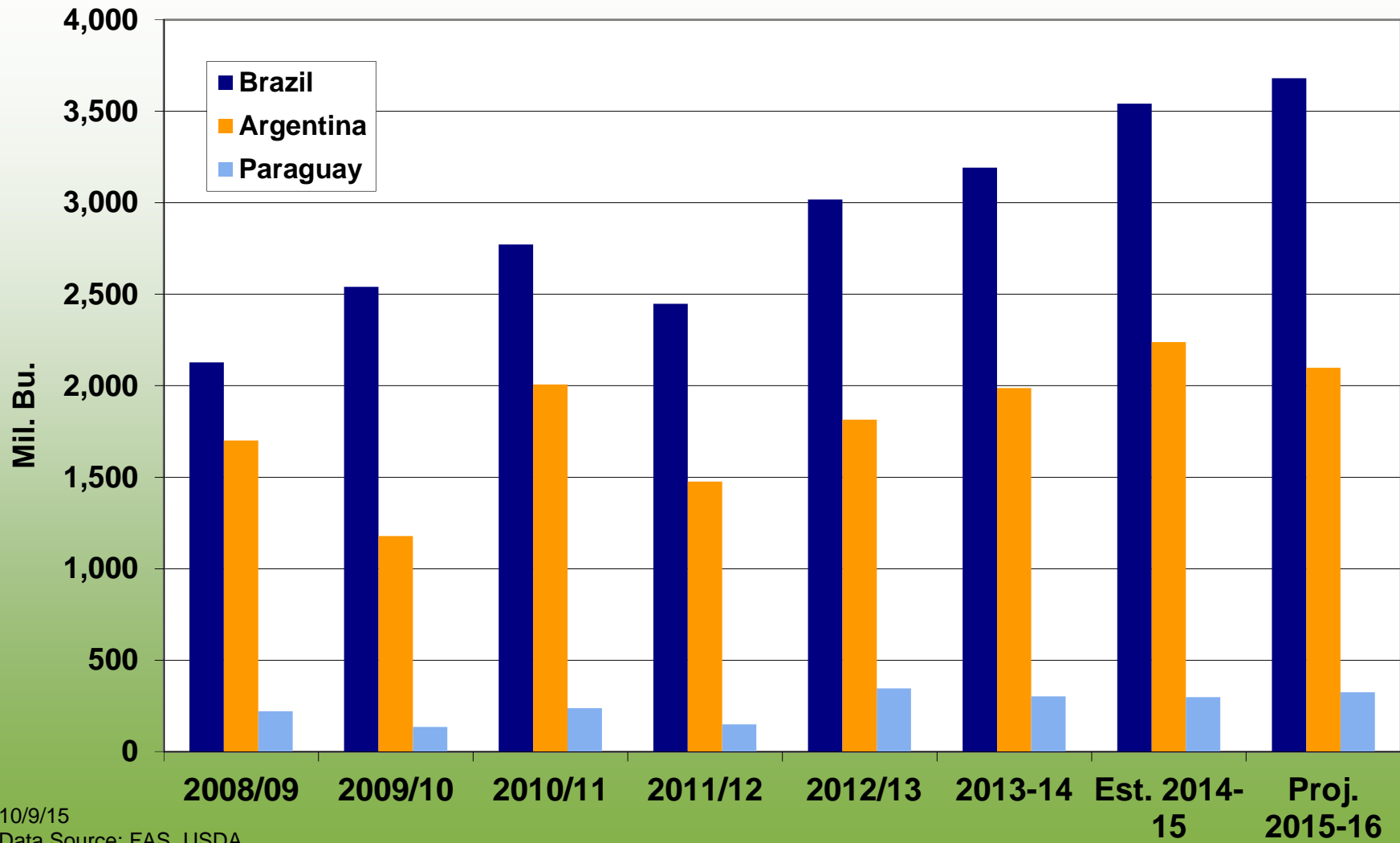
## Ending Soybean Carryover and the U.S. Weighted Average Farm Price



## Ending Soybean Carryover, Weighted Average Iowa Farm Price, and Iowa Harvest Price



## South American Soybean Production



10/9/15  
Data Source: FAS, USDA