

Grain Market Outlook for Fall 2015-2016

KSU Futures Trading Class

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Grain Market "Drivers"

Key issues affecting grain markets over 1998-2015 Period

- **Soybean exports (to China) & ethanol use (by U.S.)** have "driven" grain Supply-Demand

⇒ "Demand-pull" has caused higher prices, crop acreage competition, & higher crop production

- **Transportation Logistics** have Impacted Grain Exports

⇒ U.S. exports have been limited by higher shipping costs to key markets versus the Black Sea, Australia, & other competitors

⇒ Panama Canal improvements may help the U.S. to Asia mkt

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More Grain Market "Drivers"

Key issues

- **Wheat** has increasingly substituted for **Feedgrains** in World **Livestock Feed Markets** since 2012

⇒ Issues of "**Food**" versus "**Feed**" quality wheat, & the degree of adoption by foreign livestock feeders

- **U.S. Grain Exports** have been limited by **↑ U.S. Dollar**

⇒ More impact for wheat (several export competitors) than corn & soybeans (competing mainly with **South America** & **Ukraine**)

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U.S. Dollar Index (ICE Futures)

Monthly Chart: August 2006 – September 2015 + 10/21/2015



Grain Market Price Behavior

Economic principles shown in market patterns over time

- **Prices tend to return to breakeven cost over time**

⇒ High grain prices & profits lead to economic responses that eventually cause lower prices & losses (& vice versa)

⇒ Evidence in **Corn**, **Soybean** & **Wheat** markets over 2005-2015

- **Market response to Supply Prospects & Prices**

Price = f(Supply): Varying \$ response to "short" vs "abundant" Stocks/Use

Use = f(Prices): Usage affected conversely by "high" vs "low" prices

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Wheat Markets



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CME Kansas Hard Red Winter Wheat

Weekly Chart: Sept 2014 – October 16, 2015 + 10/21/2015



CME Kansas Hard Red Winter Wheat

Monthly Chart: August 2006 – October 2015 + 10/21/2015



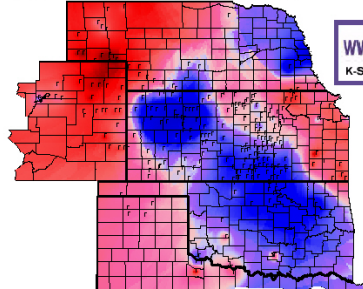
Wheat Basis, 10-14-2015

Basis = Cash Price - Nearby Futures Price

KCBT Dec
Futures
Price: \$5.01

\$/Bushel

- .31
- .48
- .54
- .58
- .59
- .60
- .64
- .70
- .79
- .82



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Wheat \$Price & Basis

\$4.19 /bu

Basis = (\$0.64) /bu

Junction City, KS

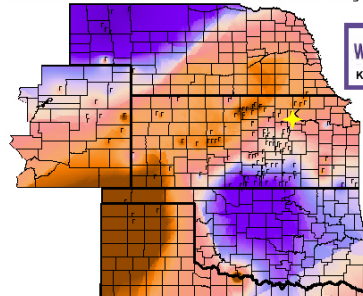
Tuesday, 10/21/2015

Wheat Basis Deviation, 10-14-2015

Basis Deviation = Current Basis - 3 Year Average Basis (2012, 2013, 2014)

\$/Bushel

- .15
- .12
- .13
- .14
- .15
- .16
- .18
- .21
- .22
- .23



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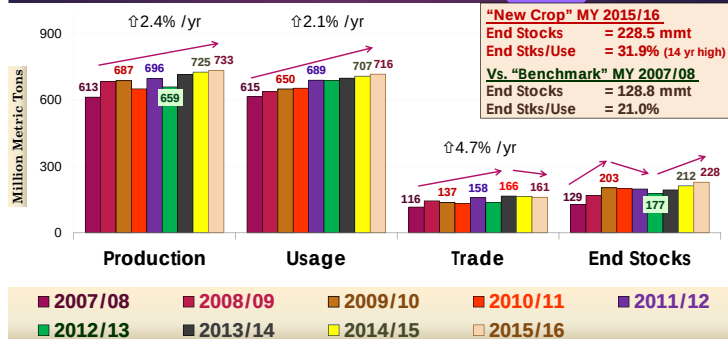
World Wheat Market Prospects: Large Supplies ⇒ A "Buyer's Market"

- Record World Supplies & Usage Forecast in 2015/16
 - 3 consecutive record high World wheat crops
- Varying 2015/16 Crop Prospects by Country
 - ↑ U.S., Australia, China, North Africa, Russia, Kazakhstan, Ukraine
 - ↓ Canada, E.U., India, Pakistan, Argentina
- World wheat exports to remain a "buyer's market" unless or until World supplies & stocks decline
 - U.S. & World Crop Uncertainty in 2016? (El Nino / La Nina...??)

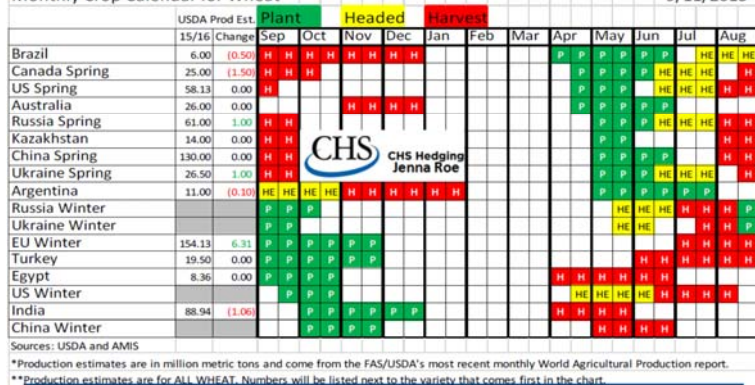
World Wheat Supply & Use – Oct. 9th WASDE

	2014/15 Estimate	2015/16 Forecast	2015/16 vs 2014/15
	mmt	mmt	percent
Beginning Stocks	194	#1 212	+9.5%
Production	#2 2015/16 725	#1 733	+1.0%
Total Supply	#2 2015/16 919	#1 945	+2.8%
Food, Seed, Other Use	#2 2015/16 574	#1 579	+0.8%
Feed Use	133	*3 yr high* 138	+3.6%
Total Domestic Use	#2 2015/16 707	#1 716	+1.3%
Export Trade	#2 2013/14 165	#3 2013/14 161	-2.4%
Ending Stocks	#2 2013/14 212	#1 228	+7.7%
% Stocks / Use	30.0%	*14 yr high* 31.9%	+1.9%

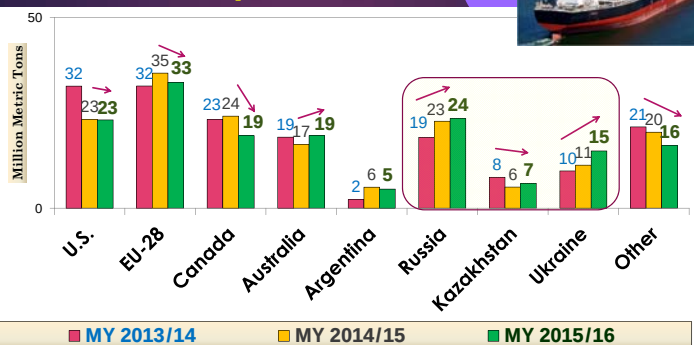
World Wheat Supply, Use & Stocks



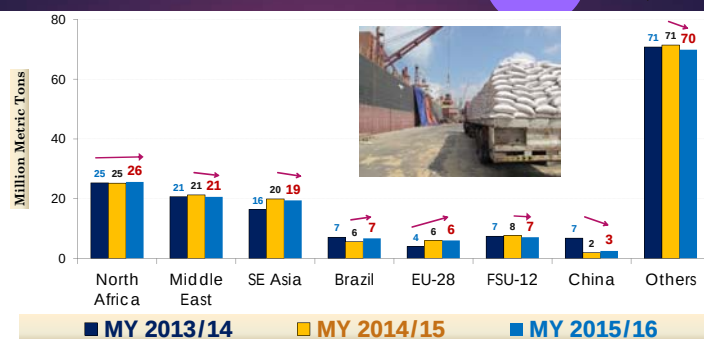
Monthly Crop Calendar for Wheat



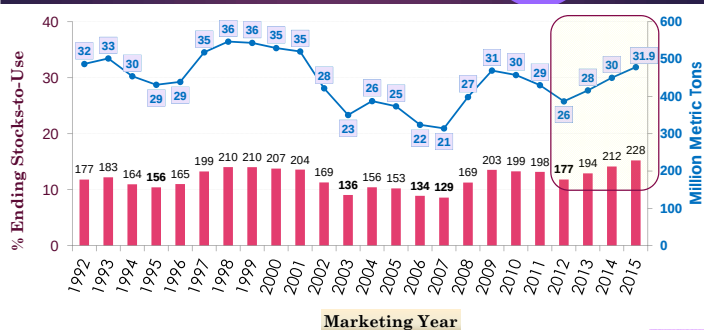
World Wheat Exporters



World Wheat Importers



World Wheat Ending Stocks & % Stx/Use



U.S. Wheat Market Prospects:

Slow Exports, Growing Stocks, & Weak Prices

- U.S. wheat exports** are likely to remain weak until the high U.S. dollar &/or record World stocks situation changes
- U.S. Spring Wheat²⁰¹⁵** $\Rightarrow$ 14.2% protein & 61.4 lb test, 1.0% defects
 o Versus 13.6% protein, 60.8 lb test wt, 1.1% defects in 2014
- U.S. HRW Wheat²⁰¹⁵** $\Rightarrow$ 12.3% protein, 59.2 lb test, 1.7% defects
 o Versus 13.3% protein, 60.7 lb test wt, 1.4% defects in 2014
- U.S. SRW Wheat²⁰¹⁵** $\Rightarrow$ 9.9% protein & 56.9 lb test, 4.1% defects
 o Versus 9.9% protein, 58.1 lb test wt, 1.7% defects in 2014

All U.S. Wheat Supply-Use & Prices

		2011/12	2012/13	2013/14	2014/15	2015/16
Area Harvested	(mil. acres)	45.7	48.8	45.3	46.4	47.1
Yield	(bu./acre)	43.6	46.2	47.1	43.7	43.6
Production	(mil. bu.)	1,993	2,252	2,135	2,026	2,052
Beginning Stocks	(mil. bu.)	863	743	718	590	753
Imports	(mil. bu.)	113	124	173	149	125
Total Supply	(mil. bu.)	2,969	3,119	3,026	2,766	2,930
Food Use	(mil. bu.)	941	951	955	958	967
Seed Use	(mil. bu.)	76	73	77	81	72
Exports	(mil. bu.)	1,051	1,012	1,176	854	850
Feed & Residual	(mil. bu.)	159	365	228	120	180
Total Use	(mil. bu.)	2,227	2,401	2,436	2,013	2,069
Ending Stocks (%S/U)	(mil. bu.)	33.4% 743	29.9% 718	24.2% 590	37.4% 753	41.6% 861
Season-Avg. Price	(\$/bu.)	\$7.24	\$7.77	\$6.87	\$5.99	\$5.00

U.S. Wheat Production in 2015

Planted Acres = 54.6 million²⁰¹⁵
vs 56.8 million²⁰¹⁴

Harvested Acres = 47.1 million²⁰¹⁵
vs 46.4 million²⁰¹⁴

Yield = 43.6 bu/ac²⁰¹⁵
vs 43.7 bu/ac²⁰¹⁴

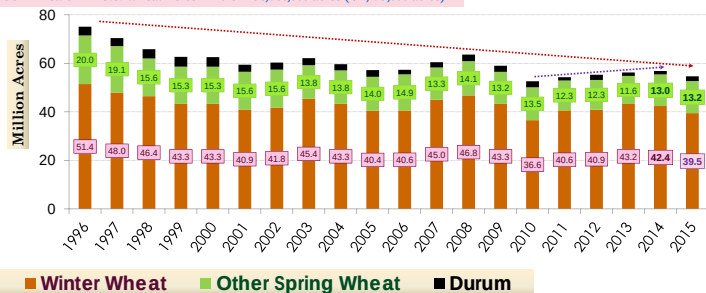
Production = 2.052 bln bu²⁰¹⁵
vs 2.026 bln bu²⁰¹⁴



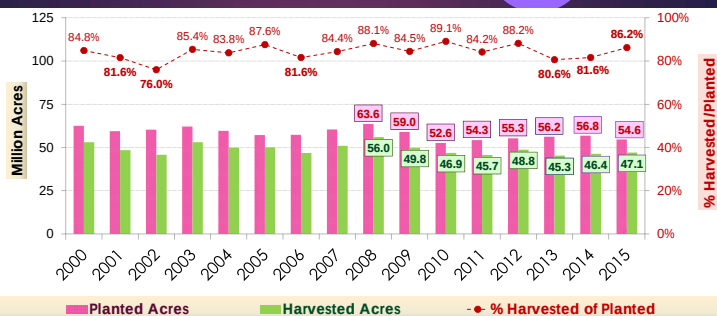
U.S. Wheat Seeded Acreage

2015 U.S. Wheat acreage ↓ 3.9% vs 2014

USDA Est. of All U.S. Wheat Acres in 2015 = 54,644,000 acres (↓2,197,000 acres)



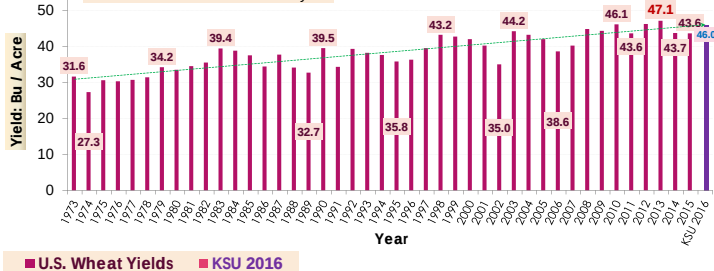
U.S. Wheat Acreage



U.S. Wheat Yields

U.S. Wheat Yield Trend (1973-2015)

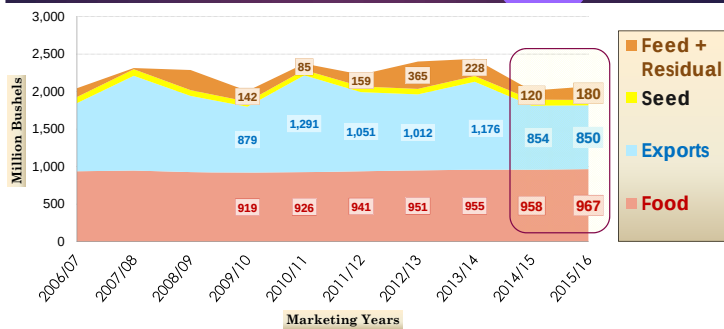
Yield = 30.50 bu + 0.353 bu/yr



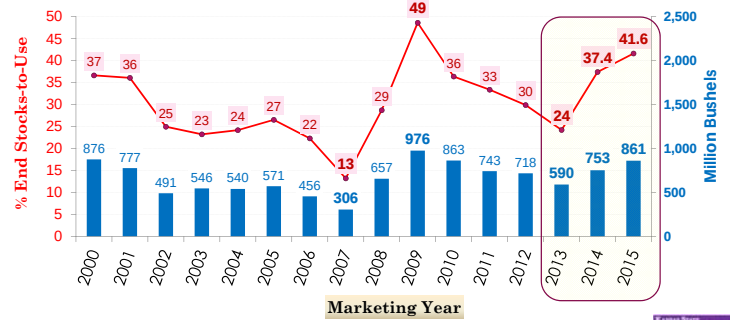
U.S. Wheat Production & Supplies



U.S. Wheat Use by Category



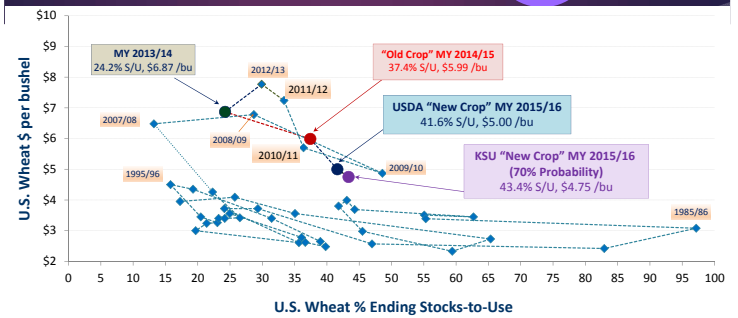
U.S. Wheat Ending Stocks & % Stx/Use



U.S. Wheat Ending Stocks & Prices

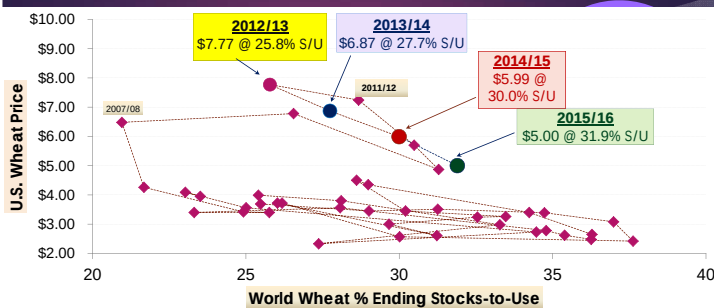


U.S. Wheat Price vs U.S. Stocks-to-Use



U.S. Wheat Price (\$) vs World %Stx/Use

MY 1973/74 – “New Crop” MY 2015/16



Corn & Sorghum Markets



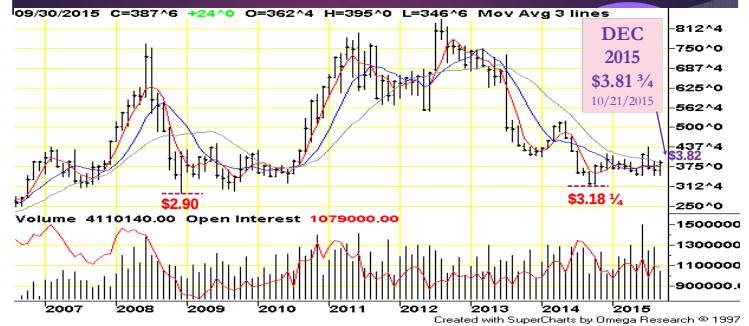
CME Corn Futures

Weekly Chart: September 2014 – October 16, 2015 + 10/21/2015



CME Corn Futures

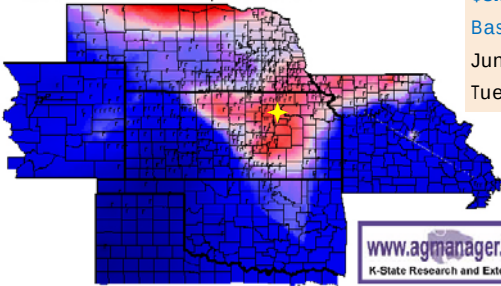
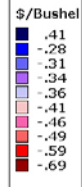
Monthly Chart: August 2006 – September 30, 2015 + 10/21/2015



Corn Basis, 10-14-2015

Basis = Cash Price - Nearby Futures Price

CBT Dec
Futures
Price: \$3.79



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Corn \$Price & Basis

\$3.35 /bu

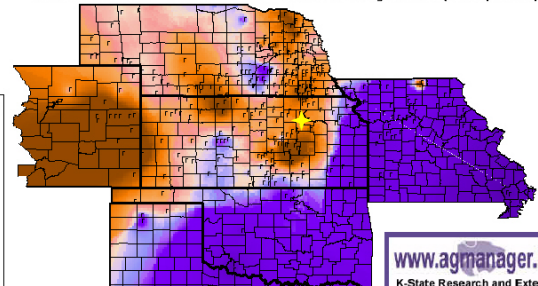
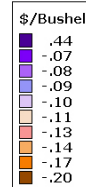
Basis = (\$0.47) /bu

Junction City, KS

Tuesday, 10/20/2015

Corn Basis Deviation, 10-14-2015

Basis Deviation = Current Basis - 3 Year Average Basis (2012, 2013, 2014)



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World Corn & Sorghum Market Prospects:

Large Supplies ⇒ A "Buyer's Market"

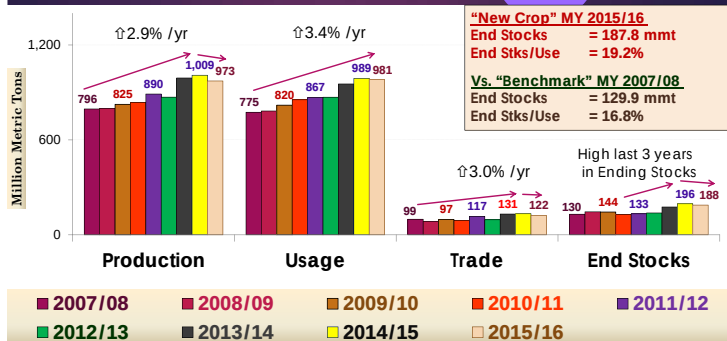
- Record World Supplies & Usage in 2015/16
 - 3 record World coarse grain crops in last 3 years (like wheat)
- Varying 2015/16 Coarse Grain Crop Prospects
 - ↑ Australia, Canada, No. Africa/Mid. East, SE Asia, China
 - ↓ U.S., Argentina*, Brazil*, E.U., Mexico, Russia, Ukraine
- Coarse grain exports likely to remain a "buyer's market" until World stocks decline
 - U.S. & World Crop Uncertainty in 2016? (El Nino / La Nina...??)

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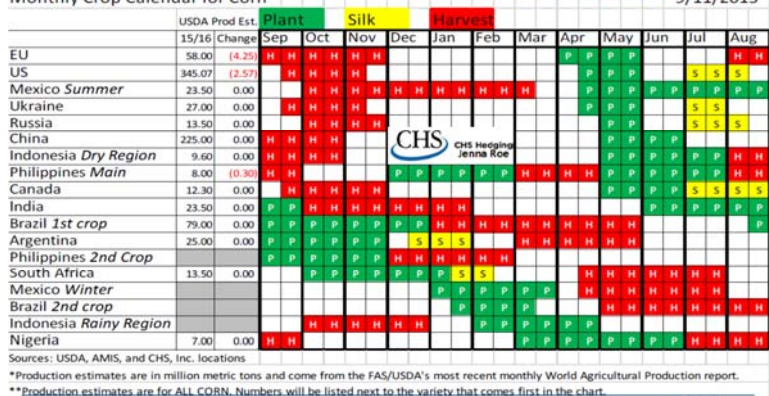
World Corn Supply & Use – October 9th WASDE

	2014/15 Estimate	2015/16 Forecast	2015/16 vs 2014/15
	mmt	Mmt	percent
Beginning Stocks	176	#3 1986/87 196	+11.4%
Production	#1 1,009	#3 2013/14 973	-3.8%
Total Supply	#1 1,185	#2 2014/15 1,169	-1.3%
Feed Use	#2 2015/16 600	#1 602	+0.5%
Food, Seed, Industrial	#1 389	#2 2014/15 378	-2.7%
Total Use	#1 989	#2 2014/15 981	-0.8%
Export Trade	#1 133	#3 2013/14 122	-8.4%
Ending Stocks	#3 1986/87 196	#5 188	-4.2%
% Stocks / Use	19.8%	19.2%	-0.6%

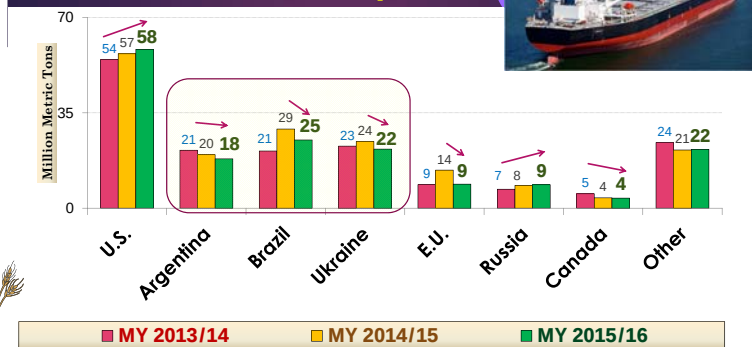
World Corn Supply, Use & Stocks



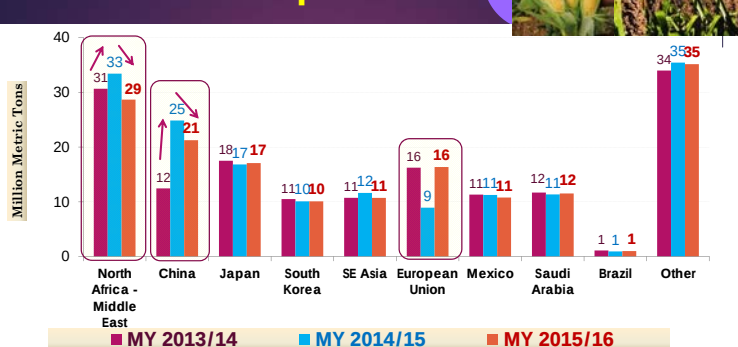
Monthly Crop Calendar for Corn



World Coarse Grain Exporters



Coarse Grain Importers



U.S. Feedgrain Market Prospects:

Strong domestic use, $\uparrow \downarrow$ Exports, & Weak Prices

- Strong U.S. sorghum exports to China in question?**
 - Depends on Chinese Ag Policy wrt managing corn reserves
- Low Corn Prices have supported U.S. domestic use**
 - Livestock Feed**^{2015/16} = 5.275 bln bu (2nd highest since 2007/08)
 - Corn Ethanol**^{2015/16} = 5.250 bln bu (record, up 45 mb vs 2014/15)
 - Other FSI**^{2015/16} = 1.380 bln bu (up 121 mb, $\approx$ average since 1998/99)
 - Exports**^{2015/16} = 1.850 bln bu (down vs 2.437 bb high in 2007/08)
- Still Some Uncertainty about 2015 U.S. corn production**

U.S. Corn Supply-Use & Prices

		2011/12	2012/13	2013/14	2014/15	2015/16
Area Planted	(mil. acres)	91.9	97.3	95.4	90.6	88.4
Yield	(bu./acre)	147.2	123.1	158.1	171.0	168.0
Production	(mil. bu.)	12,314	10,755	13,829	14,216	13,555
Beginning Stocks	(mil. bu.)	1,128	989	821	1,232	1,731
Imports	(mil. bu.)	29	160	36	32	30
Total Supply	(mil. bu.)	13,471	11,904	14,686	15,479	15,316
Ethanol	(mil. bu.)	5,000	4,641	5,124	5,207	5,250
Food, Seed, & Other	(mil. bu.)	1,424	1,397	1,369	1,365	1,380
Exports	(mil. bu.)	1,539	730	1,920	1,864	1,850
Feed & Residual	(mil. bu.)	4,519	4,315	5,040	5,317	5,275
Total Use	(mil. bu.)	12,528	11,083	13,454	13,748	13,755
Ending Stocks (%S/U)	(mil. bu.)	7.9% 989	7.4% 821	9.2% 1,232	12.6% 1,731	11.4% 1,561
Season-Avg. Price	(\$/bu.)	\$6.22	\$6.89	\$4.46	\$3.70	\$3.80

U.S. Corn Production in 2015

**Planted Acres = 88.4 million²⁰¹⁵ ????
vs 90.6 million²⁰¹⁴**

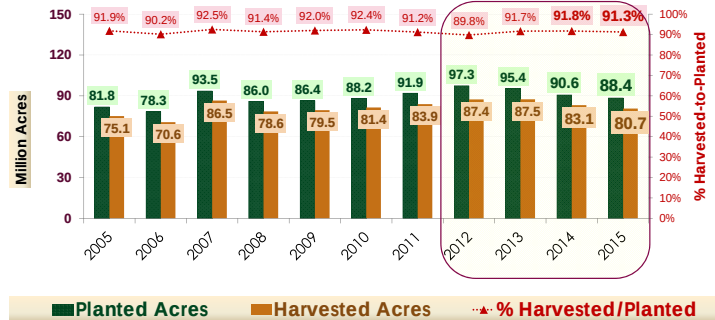
**Harvested Acres = 80.7 million²⁰¹⁵ ????
vs 83.1 million²⁰¹⁴**

**Yield = 168.0 bu/ac²⁰¹⁵ ????
vs 171.0 bu/ac²⁰¹⁴ (record)**

**Production = 13.555 bln bu²⁰¹⁵ ????
vs 14.216 bln bu²⁰¹⁴ (record)**

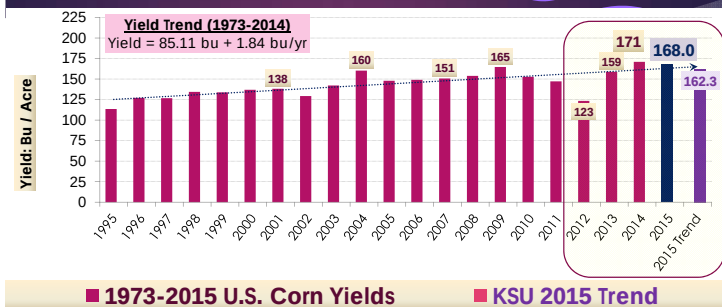


U.S. Corn Acreage

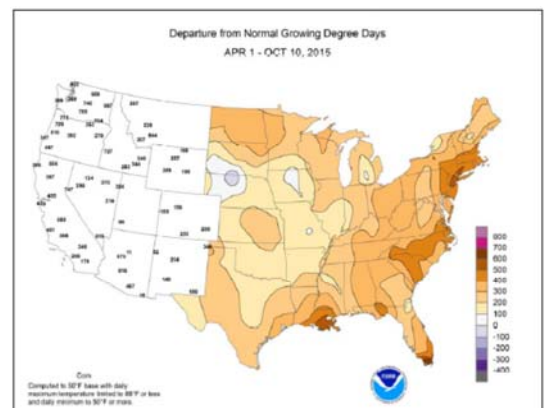
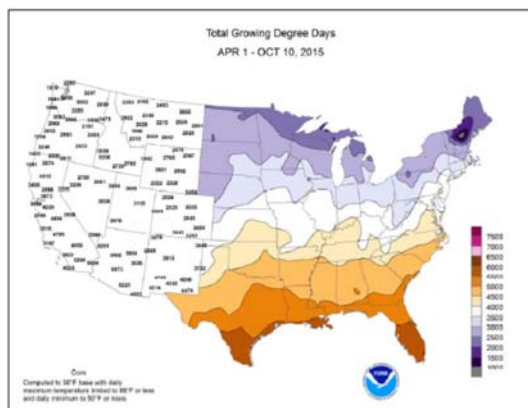


U.S. Corn Yields

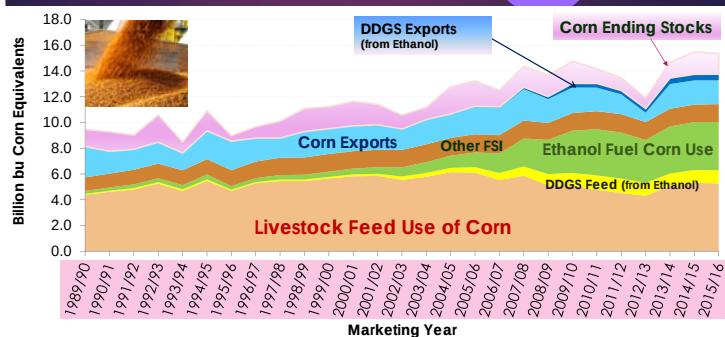
USDA 2015 = 168.0 bu/ac; 2015 Trend¹⁹⁷³⁻²⁰¹⁴ = 162.3



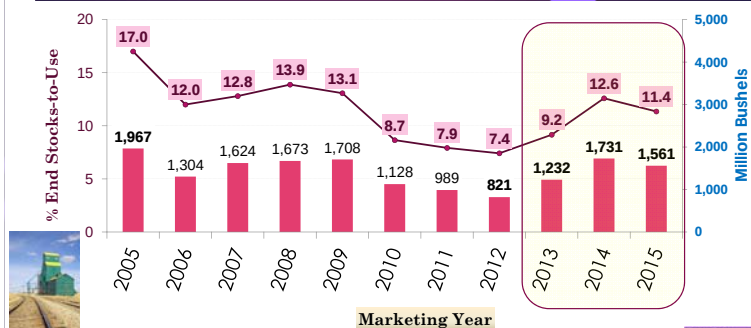
U.S. Corn Production & Supplies



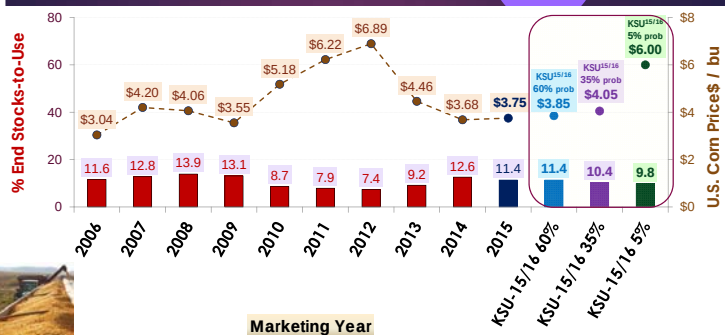
U.S. Corn Use - With DDGS #s



U.S. Corn Ending Stocks & % Stx/Use

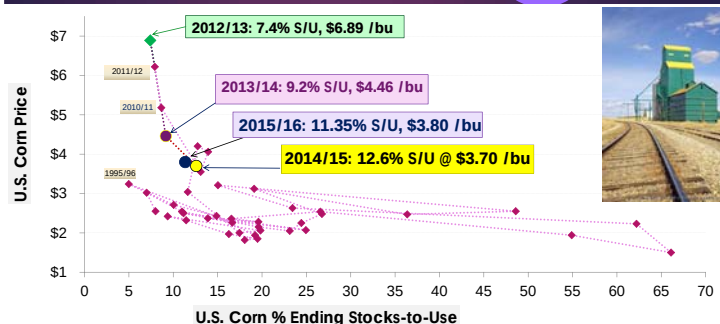


U.S. Corn % Stocks/Use vs Price\$



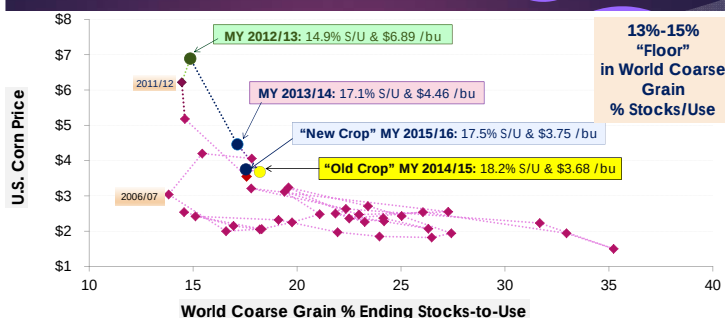
U.S. Corn Price\$ vs U.S. % Stocks-to-Use

MY 1973/74 through "New Crop" MY 2015/16



U.S. Corn\$ vs World Coarse Grain %S/U

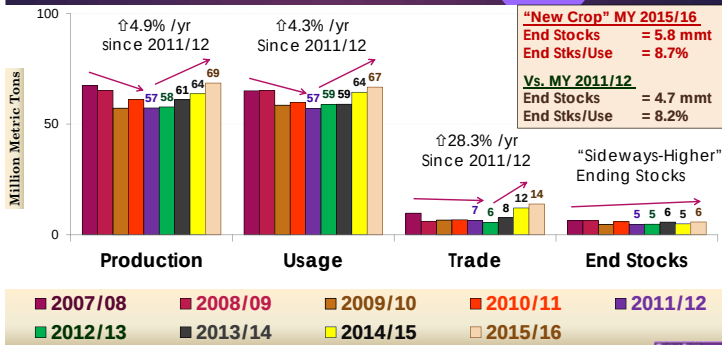
MY 1973/74 through "New Crop" MY 2015/16



World Sorghum Supply & Use - 10/9 WASDE

	2014/15 Estimate	2015/16 Forecast	2015/16 vs 2014/15
	mmt	mmt	percent
Beginning Stocks	6	5	-13.5%
Production	64	*high since 1996* 69	+7.6%
Total Supply	72	*high since 1987* 74	+1.5%
Feed Use	30	*high since 1996* 33	+9.1%
Food, Seed, Industrial	34	34	-1.3%
Total Use	64	#1 67	+3.6%
Export Trade	12	*high since 1980* 14	+14.7%
Ending Stocks	5	6	+16.4%
% Stocks / Use	7.7%	8.7%	+1.0%

World Sorghum Supply, Use & Stocks



U.S. Sorghum Supply-Use & Prices

	2011/12	2012/13	2013/14	2014/15	2015/16
Area Planted (mil. acres)	5.5	6.3	8.1	7.1	8.7
Yield (bu./acre)	54.0	49.6	59.6	67.6	74.9
Production (mil. bu.)	213	248	392	433	574
Beginning Stocks (mil. bu.)	27	23	15	34	18
Imports (mil. bu.)	0.1	10	0.1	0.4	0
Total Supply (mil. bu.)	241	280	408	467	592
Alcohol-Industrial, Food (mil. bu.)	84	94	69	14	14
Seed (mil. bu.)	1	1	1	1	1
Exports (mil. bu.)	63	76	211	353	430
Feed & Residual (mil. bu.)	69	93	93	80	105
Total Use (mil. bu.)	218	265	374	449	550
Ending Stocks (%S/U) (mil. bu.)	10.6% 23	5.7% 15	9.1% 34	4.1% 18	7.6% 42
Season-Avg. Price (\$/bu.)	\$5.99	\$6.33	\$4.28	\$4.03	\$4.00

U.S. Sorghum Production in 2015

Planted Acres = 8.7 million²⁰¹⁵
vs 7.1 million²⁰¹⁴

Harvested Acres = 7.6 million²⁰¹⁵
vs 6.4 million²⁰¹⁴

Yield = 75.0 bu/ac²⁰¹⁵
vs 67.6 bu/ac²⁰¹⁴

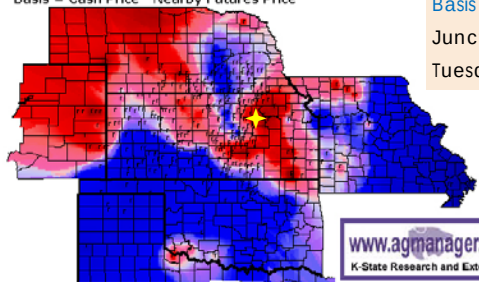
Production = 574 mln bu²⁰¹⁵
vs 433 mln bu²⁰¹⁴



Grain Sorghum Basis, 10-14-2015

Basis = Cash Price - Nearby Futures Price

CBT Corn
Dec Futures
Price: \$3.79
\$/Bushel



Sorghum \$Price & Basis

\$3.14 /bu

Basis = (\$0.68) /bu

Junction City, KS

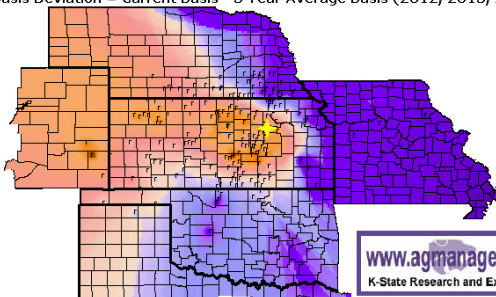
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Grain Sorghum Basis Deviation, 10-14-2015

Basis Deviation = Current Basis - 3 Year Average Basis (2012, 2013, 2014)

\$/Bushel



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Soybean Markets



KANSAS STATE UNIVERSITY
Department of Agricultural Economics

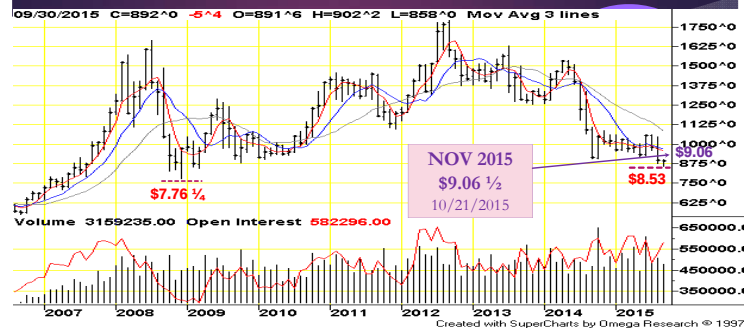
CME Soybean Futures

Weekly Chart: September 2014 – October 16, 2015 + 10/21/2015



CME Soybean Futures

Monthly Chart: Sept. 2014 – Sept. 30, 2015 + 10/21/2015



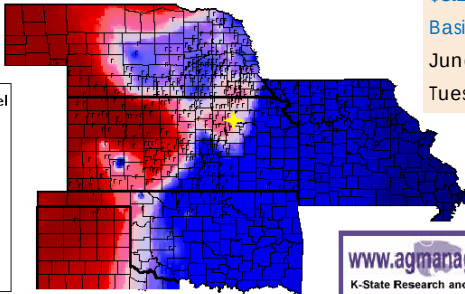
Soybean Basis, 10-14-2015

Basis = Cash Price - Nearby Futures Price

CBT Nov
Futures
Price: \$9.11

\$/Bushel

- .25
- .67
- .71
- .73
- .74
- .79
- .81
- .87
- .88
- .99



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Soybean \$Price & Basis

\$8.23 /bu

Basis = (\$0.83) /bu

Junction City, KS

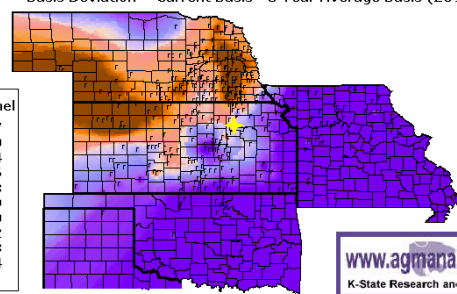
Tuesday, 10/21/2015

Soybean Basis Deviation, 10-14-2015

Basis Deviation = Current Basis - 3 Year Average Basis (2012, 2013, 2014)

\$/Bushel

- .67
- .00
- .04
- .06
- .08
- .09
- .10
- .12
- .13
- .14



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World Soybean Market Prospects: Large Supplies ⇒ A "Buyer's Market"

- Record World Supplies & Usage in 2015/16
 - 3 consecutive record large World soybean crops (like wheat & corn)
- Varying MY 2015/16 Crop Prospects by Country
 - ↑ Brazil, Paraguay, & the European Union
 - ↓ U.S., Argentina, & China
- World soybean exports to remain a "buyer's market" until World supplies & stocks decline
 - U.S. & World Crop Uncertainty in 2016? (El Nino...??)

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World Soybean Supply & Use – 10/9/2015 WASDE

	2014/15 Estimate	2015/16 Forecast	2015/16 vs 2014/15
	mmt	mmt	percent
Beginning Stocks	63	#1 78	+24.2%
Production	#2 2015/16 319	#1 320	+0.5%
Total Supply	#2 2015/16 382	#1 398	+4.4%
Domestic Crush	#2 2015/16 261	#1 272	+4.5%
Food, Seed, Other Use	#2 2015/16 37	#1 38	+2.0%
Total Use	#2 2015/16 298	#1 310	+4.2%
Export Trade	#2 2015/16 126	#1 127	+0.6%
Ending Stocks	#2 2015/16 78	#1 85	+9.2%
% Stocks / Use	#4 2010/11 26.2%	#3 2010/11 27.4%	+1.2%



9/11/2015

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A photograph showing a tugboat pushing a large, flat-topped barge on a wide river. The tugboat is white with a blue hull and has a cabin with windows. The barge is long and rectangular. In the background, there are industrial structures and a bridge.



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U.S. Soybean Production in 2015

Planted Acres = 83.2 million²⁰¹⁵ #2 2014
vs 83.3 million²⁰¹⁴ #1

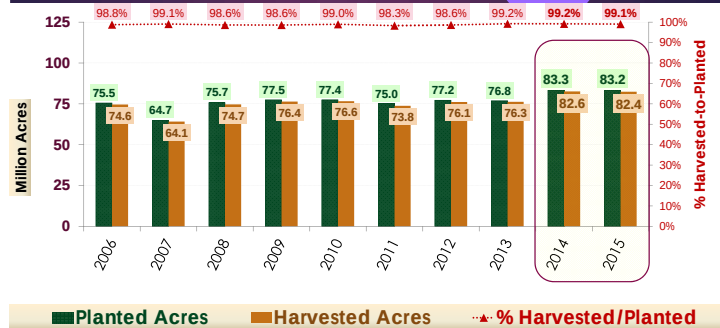
Harvested Acres = 82.4 million²⁰¹⁵ #2 2014
vs 82.6 million²⁰¹⁴ #1

Yield = 47.2 bu/ac²⁰¹⁵ #2 2014
vs 47.5 bu/ac²⁰¹⁴ #1

Production = 3.888 bln bu²⁰¹⁵ #2 2014
vs 3.927 bln bu²⁰¹⁴ #1

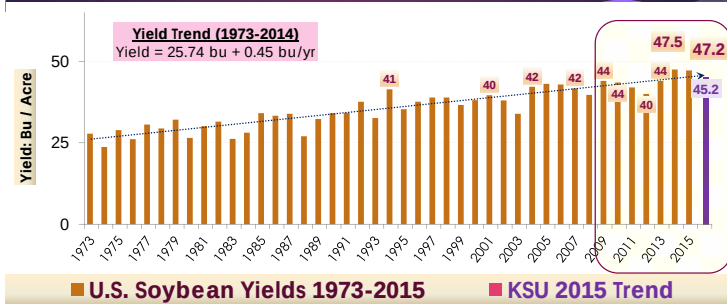


U.S. Soybean Acreage



U.S. Soybean Yields

USDA 2015 = 47.2 bu/ac; 2015 Trend¹⁹⁷³⁻²⁰¹⁴ = 45.2



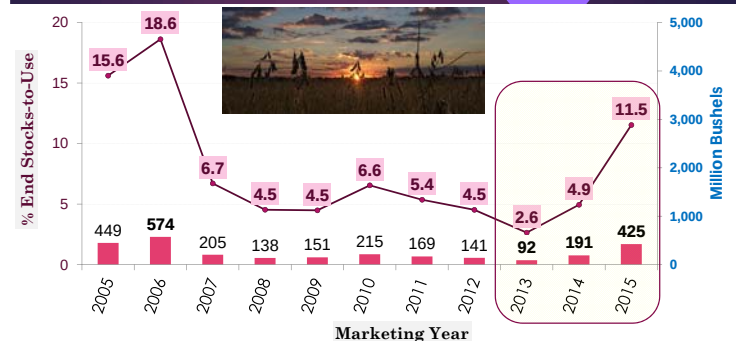
U.S. Soybean Production & Supplies



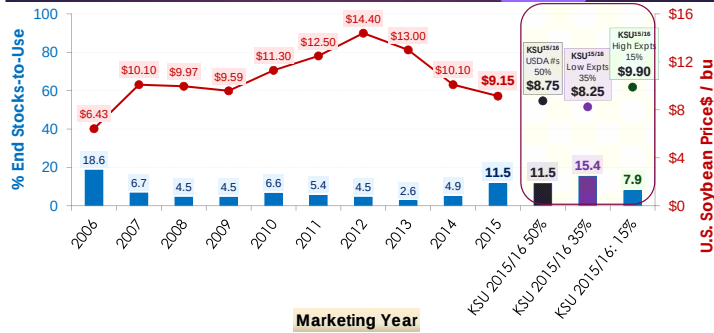
U.S. Soybean Use & End Stocks



U.S. Soybean Ending Stocks & % Stx/Use

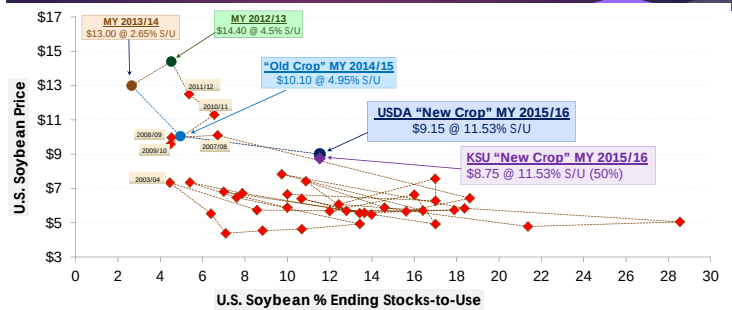


U.S. Soybean % Stocks/Use vs Prices\$



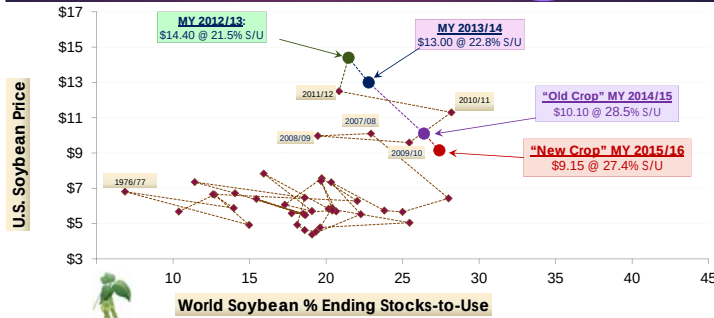
U.S. Soybean \$ vs U.S. Stx-to-Use

MY 1973/74 through "New Crop" MY 2015/16



U.S. Soybean\$ vs World %Stx/Use

MY 1973/74 through "New Crop" MY 2015/16

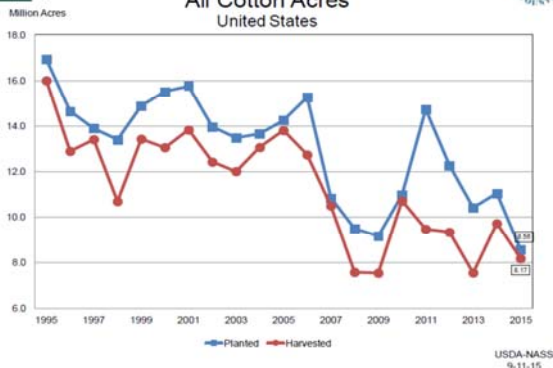


World Cotton Supply & Use – 9/11/2015 WASDE

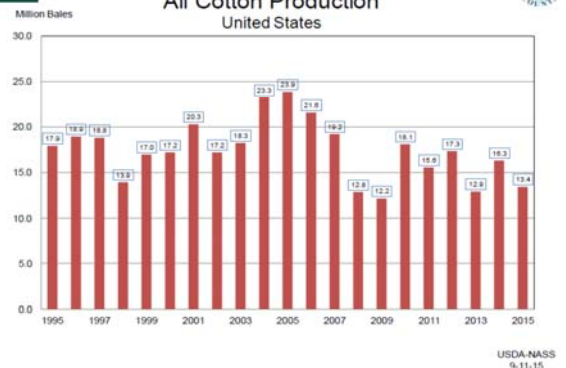
	MY 2014/15 Estimate	MY 2015/16 Forecast	MY 2015/16 vs MY 2014/15
	Million bales	Million bales	percent
Beginning Stocks	103	111	+8.7%
Production	119	109	-8.6%
Total Supply	222	220	-1.0%
Domestic Use	112	113	+1.7%
Export Trade	35.4	34.3	-3.2%
World Ending Stocks	111	106	-4.2%
China Ending Stocks	(60%) 67	(61%) 65	-3.4%
Non-China End Stocks	(40%) 44	(39%) 41	-5.3%



All Cotton Acres United States



All Cotton Production United States



U.S. Cotton Supply-Use & Prices

		2011/12	2012/13	2013/14	2014/15	2015/16
Area Planted	(mil. acres)	14.7	12.3	10.4	11.0	8.6
Yield	(Lbs./ hvsd. acre)	790	887	821	838	784
Production	(thsd short tons)	15,573	17,314	12,909	16,319	13,340
Beginning Stocks	(thsd 40# bales)	2,600	3,350	3,800	2,350	3,700
Imports	(thsd 40# bales)	19	10	13	12	10
Total Supply	(thsd 40# bales)	18,192	20,674	16,722	18,681	17,050
Domestic Use	(thsd 40# bales)	3,128	3,848	3,550	3,580	3,700
Exports	(thsd 40# bales)	11,714	13,026	10,530	11,250	10,200
Total Use	(thsd 40# bales)	14,842	16,874	14,080	14,820	13,900
Ending Stocks (%S/U)	(thsd 40# bales)	22.6% 3,350	22.5% 3,800	16.7% 2,350	25.0% 3,700	22.3% 3,100
Season-Avg. Price	(\$0.00/lb)	\$0.883	\$0.720	\$0.779	\$0.605	\$0.59

Questions?

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