

**September 2012 – Crop Market Update**  
**Public Policy Department**  
**Budget & Economic Analysis Team**



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**Crop Outlook: “September WASDE Disappoints the Corn Market and Supports Soybeans”**

The September *WASDE* usually carries less weight in impacting the market than the August report as the August *WASDE* has the first survey of producers and the first survey of actual crop measurements within the fields. Similarly, the October *WASDE* incorporates harvested yield data, the September 29 *Grain Stocks* report, USDA FSA *Certified Acreage* data, and an update of the producer survey and field survey data. However, this year’s September report received greater anticipation due to the drought and the tight stocks in both the corn and soybean markets.

Pre-report forecasts were for further reductions in both corn and soybean new-crop ending stocks. The September report was bearish for corn in the sense that it didn’t live up to expectations. In contrast, the report shows the soybean stocks are lower than the pre-report forecasts. However, the market fundamentals are still forecasting tight ending stocks in both the corn and soybean markets.

***Corn***

Pre-report forecasts were for 2012-13 corn ending stocks slipping to 618 million bushels. The September *WASDE* projects 2012-13 corn ending stocks at 733 million bushels – an increase of 83 million bushels from the August forecast. This is due to larger expected carry-in from the 2011-12 crop as the early harvested corn displaced the old-crop corn and increases the supply available at the start of the 2012-13 marketing-year.

The September *WASDE* reduced the projected corn yield slightly (0.6 bushels/acre) to a yield of 122.8 bushels/acre. If realized, this would be the smallest average yield since 1995. The farm press is reporting that this year's crop has a lighter test-weight which will contribute to a lower yield forecast in future estimates. The 2012-13 corn production is projected to be 10.73 billion bushels which is slightly larger than expected by analysts prior to the report. However, the 2012 crop is projected to be 1.63 billion bushels less than the 2011 crop.

<b>Table 1. U.S. Corn Supply and Use</b>					
	2009-10	2010-11	2011-12	2012-13	Change from
	Actual	Actual	Estimated	Sep. Forecast	2011-12
Million Acres					
Planted Acres	86.4	88.2	91.9	96.4	+4.5
Harvested Acres	0.0	81.4	84.0	87.4	+3.4
% Abandoned	-100.0%	-7.7%	-8.6%	-9.3%	-0.7%
Bushels per Acre					
Yield	164.7	152.8	147.2	122.8	-24.4
Million Bushels					
Beginning Stocks	1,673	1,708	1,128	1,181	+53.0
Production	13,092	12,447	12,358	10,727	-1,631.0
Imports	8	28	25	75	+50.0
Total Supply	14,774	14,182	13,511	11,983	-1,528.0
Feed & Residual	5,140	4,792	4,400	4,150	-250.0
Food, Seed & Industrial	5,939	6,428	6,390	5,850	-540.0
Ethanol for Fuel	4,568	5,021	5,000	4,500	-500.0
Exports	1,987	1,835	1,540	1,250	-290.0
Total Use	13,066	13,054	12,330	11,250	-1,080.0
Ending Stocks	1,708	1,128	1,181	733	-448.0
Avg. Farm Price	\$3.55	\$5.18	\$6.25	\$7.90	+\$1.65
Stocks-Use	13.1%	8.6%	9.6%	6.5%	-3.1%
Days of Ending Stocks	48	32	35	24	-11.2

The September report increased use slightly from the August projections. However, corn use is projected to be reduced significantly from the demand levels in the 2011-12 marketing-year. Feed use is currently projected at 4.15 billion bushels and corn for ethanol use is projected at 4.5 billion bushels. Corn exports are projected to be 1.25 billion bushels, down 37 percent from the 2009-10 marketing-year. If realized, this would be the smallest level of corn exports since 1985.

The 2012-13 projected ending stocks were increased slightly from the August report to 733 million bushels which is a stocks-use ratio of 6.5 percent and suggests about 24 days of inventory would be on hand at the end of the marketing-year. This fundamental will support corn prices – especially as the markets bid for acreage with the tight soybean market. The projected 2012-13 marketing-year average corn price was lowered \$0.30 per bushel to \$7.90 per bushel.

Global corn stocks are at 4.86 billion bushels which is the smallest level since 2006.

### ***Soybeans***

The 2011-12 marketing-year soybean ending-stocks were reduced more than pre-reports anticipated which was bullish for the soybean market. The September report reduced old-crop ending-stocks to 130 million bushels due to increased crushing demand and exports. That is a pipeline minimum 4.1 percent stocks-use ratio or about 15 days of inventory.

The September *WASDE* reduced the estimated soybean yield 0.8 bushels/acre to a yield of 35.3 bushels/acre. If realized, this would be the smallest yield since the 2003 crop. The 2012-13 soybean crop is projected to be 2.634 billion bushels which is 58 million bushels less than projected in August. If realized, this would be the smallest U.S. soybean crop since 2003.

Like in the corn market, the soybean market has to ration demand significantly from the previous marketing year. Soybean exports are projected to decline 305 million bushels from the 2011-12 marketing-year. If realized, this would be the smallest level of exports since 2005. World soybean demand is very strong with China doubling their net imports since 2005. With South America having a reduced crop and effectively out of the market until March 2013, the World's soybean needs will

effectively be met by the United States. This strong demand will keep pressure on tight stocks and should support potentially higher prices.

Ending stocks for the 2012-13 marketing-year are projected at 115 million bushels which is a 4.3 percent stocks-use ratio or about 16 days of inventory available at end of the marketing-year. The soybean market is projected to remain at pipeline minimum levels for the second year. This will support the U.S. marketing-year average price at \$16 per bushel.

Global soybean stocks are projected at 1.961 billion bushels; however, this is a misleading statistic as the 2012-13 balance sheet is incorporating South American production estimates for crops that are on the verge of being planted.

USDA assumes Argentina and Brazil will have trend-line production which would be an increase of 34 percent for Argentina and 22 percent for Brazil. Until March 2013, the World Soybean market stocks are uncomfortably tight.

With spring arriving in South America, the corn and soybean markets will be focused on the growing season and production potential to provide relief for the tight stocks. A bountiful corn and soybean crop will be needed by the market to allow stocks to rebuild.

### Wheat

The September report made no adjustments to either the 2011-12 or the 2012-13 all wheat supply and use projections. The marketing-year average price was reduced \$0.20 per bushel to an average of \$8.10 per bushel reflecting that a lot of wheat has been forward priced at much lower prices than currently available in the market. In addition, the slight reduction in projected corn price lowers the value of wheat.

Soon the market will be focused on winter wheat seeding and concerns of adequate soil moisture in the southern plains to establish a crop. The crop insurance projected price is still being determined by the futures market from August 15 – September 14. Current estimates are for a

<b>Table 2. U.S. Soybean Supply and Use</b>					
	2009-10	2010-11	2011-12	2012-13	Change from
	Actual	Actual	Estimated	Sep. Forecast	2011-12
Million Acres					
Planted Acres	77.5	77.4	75.0	76.1	+1.1
Harvested Acres	76.4	76.6	73.6	74.6	+1.0
% Abandoned	-1.4%	-1.0%	-1.9%	-2.0%	-0.1%
Bushels per Acre					
Yield	44.0	43.5	41.5	35.3	-6.2
Million Bushels					
Beginning Stocks	138	151	215	130	-85.0
Production	3,359	3,329	3,056	2,634	-422.0
Imports	15	14	16	20	+4.0
Total Supply	3,512	3,495	3,287	2,785	-502.0
Crushing	1,752	1,648	1,705	1,500	-205.0
Exports	1,501	1,501	1,360	1,055	-305.0
Seed & residual	108	130	91	114	+23.0
Total Use	3,361	3,280	3,157	2,670	-487.0
Ending Stocks	151	215	130	115	-15.0
Avg. Farm Price	\$9.59	\$11.30	\$12.45	\$16.00	+\$3.55
Stocks-Use	4.5%	6.6%	4.1%	4.3%	+0.2%
Days of Ending Stocks	16	24	15	16	+0.7

<b>Table 3. U.S. Wheat Supply and Use</b>					
	2009-10	2010-11	2011-12	2012-13	Change from
	Actual	Actual	Estimated	Sep. Forecast	2011-12
Million Acres					
Planted Acres	59.2	53.6	54.4	56.0	+1.6
Harvested Acres	49.9	47.6	45.7	48.8	+3.1
% Abandoned	-15.7%	-11.2%	-16.0%	-12.9%	+3.1%
Bushels per Acre					
Yield	44.5	46.3	43.7	46.5	+2.8
Million Bushels					
Beginning Stocks	657	976	862	743	-119.0
Production	2,218	2,207	1,999	2,268	+269.0
Imports	119	97	112	130	+18.0
Total Supply	2,993	3,279	2,974	3,141	+167.0
Food	917	926	941	950	+9.0
Seed, Feed & Residual	219	203	240	293	+53.0
Exports	881	1,289	1,050	1,200	+150.0
Total Use	2,018	2,417	2,231	2,443	+212.0
Ending Stocks	976	862	743	698	-45.0
Avg. Farm Price	\$4.87	\$5.70	\$7.24	\$8.10	+\$0.86
Stocks-Use	48.4%	35.7%	33.3%	28.6%	-4.7%
Days of Ending Stocks	177	130	122	104	-17.3

projected price of \$8.55 in the Southeast and Northeast, \$8.38 in the Pacific Northwest, and \$8.75 in the Plains states. The insurance guarantee price should provide sufficient protection to motivate production. If a crop can be established this fall, there should be plenty of interest in grazing hungry calves for ranchers desperate to source winter feedstuffs.

Global wheat stocks are projected at 6.97 billion bushels which is the lowest level since 2008. The global wheat market is gaining attention with a 4 million metric ton reduction in the Russian wheat crop from the August report. Russia will not have large excess supply to export and some market analysts are discussing the possibility that Russia will take policy measures to curb exports. This is a tricky situation for Russia as they are now in the WTO and are supposed to live by established rules that discourage export bans. Similarly, weather problems in Australia (drought) and Argentina (flooding) are creating uncertainty over expected production in the Southern hemisphere. These factors could provide additional export opportunities for the U.S. crop and support higher prices.

### ***Cotton***

Cotton is burdened with growing stocks – both in the U.S. and globally. Global cotton stocks are projected at 74.67 million bales which is the largest in history. However, 48 percent of the stocks are held by China and that cotton is effectively off of the market. Lower prices are still needed to motivate demand so the market can chew through the mountain of stocks.

Overall use is projected to be slightly greater than 2011-12, but production is projected to increase by over 1.54 million bales from the drought stricken 2011 crop. Ending-stocks are projected to increase by 1.95 million bales with a projected stocks-use ratio of about 35 percent. The U.S. marketing-year average price is projected at \$0.70 per pound. Cotton will likely lose acreage next year as the returns for producing corn or soybeans will be greater than cotton in some cotton states.

<b>Table 4. U.S. Cotton Supply and Use</b>					
	2009-10	2010-11	2011-12	2012-13	Change from
	Actual	Actual	Estimated	Sep. Forecast	2011-12
Million Acres					
Planted Acres	9.15	10.97	14.74	12.36	-2.38
Harvested Acres	7.53	10.70	9.46	10.44	+0.98
% Abandoned	-18%	-2%	-36%	-15.5%	+20.3%
Pounds per Acre					
Yield	777.0	812.0	790.0	786.0	
Million Bales					
Beginning Stocks	6.34	2.95	2.60	3.35	+0.75
Production	12.19	18.10	15.57	17.11	+1.54
Imports	0.00	0.01	0.02	0.01	-0.01
Total Supply	18.53	21.06	18.19	20.46	+2.27
Domestic Use	3.46	3.90	3.30	3.40	+0.10
Exports	12.04	14.38	11.71	11.80	+0.09
Total Use	15.50	18.28	15.01	15.20	+0.19
Unaccounted	0.08	0.18	-0.17	-0.04	+0.13
Ending Stocks	2.95	2.60	3.35	5.30	+1.950
Avg. Farm Price	\$0.629	\$0.815	\$0.885	\$0.700	-\$0.1850
Stocks-Use	19.0%	14.2%	22.3%	34.9%	+12.5%
Days of Ending Stocks	69	52	81	127	+45.8

### ***What are the Long-Term Impacts on Demand?***

Economists talk about demand rationing as if that demand will immediately snap back as soon as there is a bumper crop and stocks start to rebuild. The legacy of a major drought or flood which causes widespread crop loss which triggers large reduction in use takes time to recover. Recovering feed demand is a function of biology and the time it takes for animals to be retained, bred, and time for the new born critters to become old enough to consume feed. Similarly, exporters continue to fight for market-share and a drought provides an opportunity for competing nations to increase exports. Exporters continue to worry about grain quality and maintaining the reputation as a reliable and consistent source of grain and oilseeds and droughts make it more difficult to provide quality grain reliably.

With this in mind, I looked at USDA *WASDE* projections from 1980 through the September 2012 report to see how demand was reduced due to the 1983 drought, 1988 drought, 1993 flood, and the 1995 small corn crop. This is what I found:

- Corn feed demand usually recovers in 3 to 4 years based on the 1983, 1988 and 1995 droughts.
- Soybean crush recovered in 3 years after the 1983 drought and 2 years after the 1988 drought. Crush demand recovered in 1 year after the 1993 flood and 1995 short crop.
- Corn exports recovered in 3 years after the 1983 drought and 2 years after the 1988 drought. Since then, export demand has recovered in one crop year in response to the 1993 flood and 1995 short crop.
- Soybean exports did not fully recover from the 1983 drought until 1999. Part of this slow recovery came from increased export competition from Argentina and Brazil. In more recent events, soybean exports recovered in the next marketing-year.

The story remains that demand destruction has lingering effects. The long-term impact of the 2012 drought will be how long it takes demand to recover from this severe rationing and the risk of losing export market share in the corn and soybean markets. It may take the livestock industry longer to recover after sustaining consecutive years of high feed costs which contributed to the declining cow herd and declining livestock inventories in general. The only saving grace on the export side is that our major competitors, Argentina and Brazil, have also experienced drought and do not have large reserves available to compete in the export market until they harvest in March-April 2013.

### **Energy Update: “Production Loses Steam Heading In To September”**

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#### ***Ethanol Production Loses Steam; Inventories Tick Upward***

Week over week ethanol production gained a little bit of steam over the month of August after a rough month of July as drought and corn prices over \$8.00 per bushel hit the markets. However, ethanol production lost some momentum entering in to September. Weekly ethanol production fell 1.6 percent to a six-week low of 816,000 barrels per day, or approximately 12.5 billion gallons annualized. The major reason for this six-week low was due to conventional gasoline blended with ethanol falling 6.6 percent to 5.04 million barrels per day, the lowest level since February 10 and the fuel comprised the least amount of the gasoline supply since January 13. Production levels continue to fall as some producers continue to wrestle with negative margins and are currently 7 percent below last year’s reported level. The 7 percent year-over-year decrease in production is rather significant because of the nature of ethanol plants during this time of year to temporarily halt production due to maintenance updates and repairs. Furthermore, year-to-date ethanol production continues to decline as production levels post disappointing marks. Currently, year-to-date production is approximately 879,000 barrels per day, or equivalent to 13.48 billion gallons annualized.

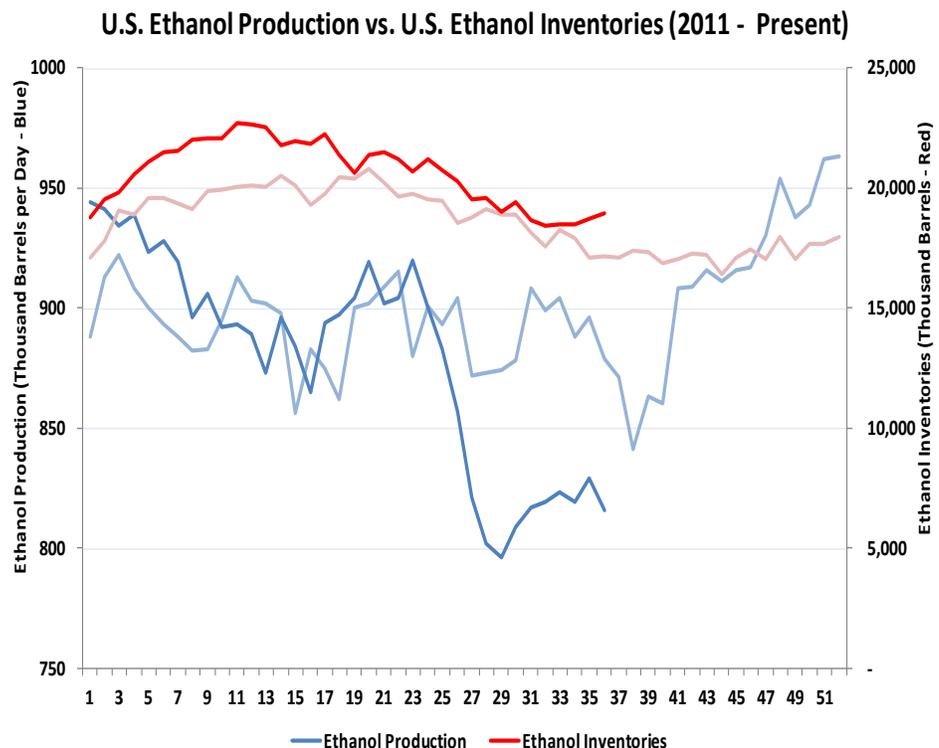
Ethanol inventories over the past month have managed to increase, albeit modestly. Stockpiles climbed 1.2 percent to 18.95 million barrels, the highest level in six weeks. For most of last month, 2012 inventory levels were approximately two to three percent over last year’s levels. Currently, ethanol inventories are approximately 10 percent higher year-over-year at an equivalent of over 796 million gallons of ethanol in storage. Over the course of the year, it’s intriguing just how much the inventory story has changed since the first quarter until now. The effects from the elimination of the \$0.45 per gallon tax credit last year resulted in significant increases in inventories at the beginning of 2012 as blenders were demanding more ethanol from producers in order to take advantage of the tax credit of blending ethanol in to gasoline. This effect has been quite clear and the data tells a fairly clear story just

by glancing at fourth quarter 2011 production levels and first quarter 2012 production and inventory levels. This level of production at the end of last year led to inventories at record level highs as was seen in mid-March of this year. Since mid-March when ethanol inventories were posted at a record high of 22.713 million barrels, ethanol inventories have decreased approximately 17 percent.

However, the level of decrease in inventories really wasn't seen until June when corn prices made their substantial climb upward. Since the first of June, inventories have since decreased approximately 11 percent. Because of \$8.00 per bushel corn (and even without including basis levels), above level inventories have been serving as a buffer to meet the Renewable Fuels Standard (RFS) mandate for conventional biofuel for 2012. In fact, this massive amount of production seen in fourth quarter 2011 allowed for approximately 2.5 billion Renewable Identification Numbers (RINs) to be rolled over in to 2012 in order for blenders to show compliance to the 13.2 billion gallon mandate set for 2012. This scenario is the major reason why the 2012 mandate will be met for conventional biofuels; however, if a subsequent drought occurs next year, the story gets a little dicier as competition for corn becomes more extreme.

**Ethanol/Gasoline Spread**

With discussion of the RFS waiver heating up, one thing is for certain: waiving the RFS will not completely eliminate the use of corn for liquid fuel purposes – nor would the nation be better served with a severe cutback in ethanol production. When discussing the economics of ethanol, it's important to be cognizant of the different economic dynamics from the producer and from the blender standpoint. From the blender standpoint, it is still economically attractive to blend ethanol with gasoline even with \$8.00 per bushel corn. About one-third of the gasoline in the country would still need to have ethanol regardless because of federal, state and local clean air rules, particularly in rather large urban areas on the East and West coasts of the United States. Refiners often produce gasoline with an octane rating of 84 and then blend with ethanol to boost it up to the regular 87 octane that is sold at the gas station. Industry and refinery sources indicate that it may take anywhere from 3 to 6 months for refineries to adjust back to producing 87 octane instead of 84 octane. To make that change, it must be economically attractive for the refinery. Whether it is economically attractive to continue using ethanol would depend on the price of other oxygen or octane sources compared to the price of ethanol. It still remains uncertain and unclear if refineries would actually even make the change if a short-term waiver were perceived to be a one-time event ending in 2013.



For these reasons alone, ethanol demand has been supported by the continued steep discount in ethanol prices over gasoline prices. Over the past month, gasoline prices continue to see support from dollar weakness, hopes for central bank stimulus, the summer's sharp drawdown in U.S. crude oil inventories from the 22-year high posted in mid-June and increased tension with Israel and Iran. With crude oil prices averaging just over \$94 per barrel over the past month and with crude oil currently nearing \$100 per barrel, this provides supportive news to already cautiously-bullish gasoline prices. At the close of Friday, September 7, RBOB gasoline futures closed at \$3.02 per gallon or a slight \$0.03 per gallon month-over-month increase.

Recently, ethanol production has been driven lower due to lower public demand for motor gasoline and not by demand destruction. Only about 90.6 percent of all motor gasoline received ethanol, included at 10 percent, compared with 95.2 percent for the year to date average. For the most part, ethanol prices have been supported by the sharp 2-month rally in gasoline prices and the sharp decline in ethanol production and inventory numbers. Ethanol prices over the past month have been trading in the \$2.50 to \$2.60 per gallon range and have been tracked closely with corn prices, which continue to consolidate near the \$8.00 per bushel level. Ethanol prices closed Friday September 7 at a \$0.51 per gallon discount to gasoline at \$2.51 per gallon.

Overall, it is still economically attractive for blenders to continue to blend ethanol with gasoline. As shown from the ProExporter graph below, ethanol's discount to gasoline continues to remain through 2012 and is forecasted to remain intact through 2013.

### ETHANOL & WHOLESALE GASOLINE PRICE, Past Ten Years by Month

