

December 2011 - Crop Market Update

Department of Economic Analysis



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Crop Situation and Outlook

The December *WASDE* usually receives little attention as the production estimates for corn, soybeans and wheat are not updated. The focus tends to be on the January report which provides the final production estimates for the year. This month's report was newsworthy more for the changes in World supply and demand than for any changes in the U.S. balance sheets.

Corn

The only change in the December *WASDE* was a 5 million bushel reduction in Food, Seed and Industrial use related to High Fructose Corn Syrup production. This decrease in use increases ending stocks by 5 million bushels. The stocks-use ratio increases slightly; however, the corn balance sheet remains tight. The projected U.S. marketing-year average farm price is lowered to \$6.40 per bushel reflecting the dramatic decrease in the futures market since the November report. The futures market is being moved by outside markets more than the fundamentals in the corn market. Concerns over the EU debt, valuation of the US dollar, fallout over MF Global, and oil prices have contributed to the sell-off in the commodity markets.

Table 1. U.S. Corn Supply and Use				
	2009-10	2010-11	2010-11	2011-12
	Actual	Estimate	November Projection	December Projection
Million Acres				
Planted Acres	86.4	88.2	91.9	91.9
Harvested Acres	79.5	81.4	83.9	83.9
% Abandoned	-8.0%	-7.7%	-8.7%	-8.7%
Bushels per Acre				
Yield	164.7	152.8	146.7	146.7
Million Bushels				
Beginning Stocks	1,673	1,708	1,128	1,128
Production	13,092	12,447	12,310	12,310
Imports	<u>8</u>	<u>28</u>	<u>15</u>	<u>15</u>
Total Supply	14,774	14,182	13,453	13,453
Feed & Residual	5,140	4,792	4,600	4,600
Food, Seed & Industrial	5,939	6,428	6,410	6,405
Ethanol for Fuel	4,568	5,021	5,000	5,000
Exports	<u>1,987</u>	<u>1,835</u>	<u>1,600</u>	<u>1,600</u>
Total Use	13,066	13,054	12,610	12,605
Ending Stocks	1,708	1,128	843	848
Avg. Farm Price	\$3.55	\$5.18	\$6.70	\$6.40
Stocks-Use	13.1%	8.6%	6.69%	6.73%
Days of Ending Stocks	48	32	24	25

Lower corn prices will stimulate demand in the domestic or export markets which would bring the tight stocks situation back into focus within the marketplace.

Global corn supplies are projected to increase primarily due to an 8.5 million ton increase in China's production. Economic and agricultural statistics data are not as readily available or as transparent as in the United States which could suggest a downward revision in this production estimate in future reports. The current projections of World ending stocks are 127.2 million metric tons which is an increase of 5.6 million metric tons from the November report. If China's production is reduced in future reports, it would provide support for higher prices.

Soybeans

The December report reduced crushing demand by 10 million bushels reflecting the softer demand for soybean meal and higher soybean meal extraction rate. Exports are reduced by 25 million bushels reflecting the slow export pace so far this marketing-year. This reduction in use increased projected ending-stocks by 35 million bushels. The stocks-use ratio increases to 7.6% which is an increase from the November report and from the 2010-11 marketing-year. Soybean prices will remain tied to corn, especially during the acreage bidding process this spring. However the price potential is reduced as the stocks are not as tight as projected in October. The U.S. average price is projected to be \$11.70 per bushel which is a \$0.90 per bushel decrease from November.

The market is now focused on the South American crop and potential La Niña affects on production. Argentina is drier than normal; however, it is too early to measure any effect on yield potential and production. A reduced South American crop will provide support for higher domestic prices as the U.S. may gain export share from our South American competitors.

Wheat

The December report reduced projected exports by 50 million bushels reflecting the strong competition from major exporting countries. Stocks are projected to increase to 878 million bushels which is a 41.7% stocks-use ratio. Marketing-year average prices are projected to be \$7.30 per bushels which is \$0.10 per bushel less than the November projections. Wheat is still tied to the corn market, due to the potential as a feed ingredient, which keeps the price potential at these higher levels.

	2009-10	2010-11	2011-12	2011-12
	Actual	Estimate	November Projection	December Projection
Million Acres				
Planted Acres	77.5	77.4	75.0	75.0
Harvested Acres	76.4	76.6	73.7	73.7
% Abandoned	-1.4%	-1.0%	-1.7%	-1.7%
Bushels per Acre				
Yield	44.0	43.5	41.3	41.3
Million Bushels				
Beginning Stocks	138.0	151.0	215.0	215.0
Production	3,359.0	3,329.0	3,046.0	3,046.0
Imports	15.0	14.0	15.0	15.0
Total Supply	3,512.0	3,495.0	3,275.0	3,275.0
Crushing	1,752.0	1,648.0	1,635.0	1,625.0
Exports	1,501.0	1,501.0	1,325.0	1,300.0
Seed & residual	108.0	130.0	120.0	120.0
Total Use	3,361.0	3,280.0	3,080.0	3,045.0
Ending Stocks	151.0	215.0	195.0	230.0
Avg. Farm Price	\$9.59	\$11.30	\$12.60	\$11.70
Stocks-Use	4.5%	6.6%	6.3%	7.6%
Days of Ending Stocks	16	24	23	28

	2009-10	2010-11	2011-12	2011-12
	Actual	Estimate	November Projection	December Projection
Million Acres				
Planted Acres	59.2	53.6	54.4	54.4
Harvested Acres	49.9	47.6	45.7	45.7
% Abandoned	-16%	-11%	-16%	-16%
Bushels per Acre				
Yield	44.5	46.3	43.7	43.7
Million Bushels				
Beginning Stocks	657	976	862	862
Production	2,218	2,207	1,999	1,999
Imports	119	97	120	120
Total Supply	2,993	3,279	2,982	2,982
Food	917	926	940	940
Seed, Feed & Residual	219	203	238	238
Exports	881	1,289	975	925
Total Use	2,018	2,417	2,153	2,103
Ending Stocks	976	862	828	878
Avg. Farm Price	\$4.87	\$5.70	\$7.40	\$7.30
Stocks-Use	48.4%	35.7%	38.5%	41.7%
Days of Ending Stocks	177	130	140	152

Global wheat stocks are projected higher by 5.9 million metric tons due to increased production in Australia, Argentina, the Ukraine, Canada and China. Global stocks are projected to be the largest in 12 years; this is bearish news for the World wheat market.

Cotton

The December report incorporated lower yield projections reflecting the damage of this year's drought throughout the South. The cotton yield is projected to be 771 pounds/acre which is a reduction of 23 pounds/acre from the November report. This translates to 470 thousand fewer bales. Mill use is reduced by 200 thousand bales reflecting the lower than expected use so far this marketing-year. Stocks are projected to be 3.5 million bales which is 300 thousand fewer bales than projected in the November report.

Table 4. U.S. Cotton Supply and Use				
	2009-10	2010-11	2011-12	2011-12
	Actual	Estimate	November Projection	December Projection
Million Acres				
Planted Acres	9.15	10.97	14.72	14.72
Harvested Acres	7.53	10.70	9.85	9.85
% Abandoned	-17.7%	-2.5%	-33.1%	-33.1%
Pounds per Acre				
Yield	777.0	812.0	794.0	771.0
Million Bales				
Beginning Stocks	6.34	2.95	2.60	2.60
Production	12.19	18.10	16.30	15.83
Imports	<u>0.00</u>	<u>0.01</u>	<u>0.01</u>	<u>0.01</u>
Total Supply	18.53	21.06	18.91	18.44
Domestic Use	3.46	3.90	3.80	3.60
Exports	12.04	14.38	11.30	11.30
Total Use	<u>15.50</u>	<u>18.28</u>	<u>15.10</u>	<u>14.90</u>
Unaccounted	0.08	0.18	0.01	0.04
Ending Stocks	2.95	2.60	3.80	3.50
Avg. Farm Price	\$0.63	\$0.82	\$0.90	\$0.90
Stocks-Use	19.0%	14.2%	25.2%	23.5%
Days of Ending Stocks	69	52	92	86

Global stocks are projected to increase due to sharply lower demand. Demand for cotton in India has been reduced by 1 million bales and by 500 thousand bales for both China and Turkey. This reduced demand is projected to increase stocks by 27% from the 2010-11 level. This increase in stocks is a global stocks-use ratio of 52% and is bearish for the cotton market.

What Might Have Been for the 2011 Crop?

December is the time of the year when folks contemplate the past year and make plans for the New Year. With that in mind, I want to illustrate for you the great production capacity that exists in the U.S. if Mother Nature cooperates and provides a “normal” growing season.

In the table below, I compare the potential crop with the actual 2011 crop for corn, soybeans, wheat and cotton. The potential crop is based on the June *Acreage* report, trend yields from 1996-2010, and the average percentage of planted acres abandoned from 2006-2010. For example, the potential U.S. corn crop was 13.75 billion bushels based on the *Acreage* survey, average abandonment and trend yields. Due to significantly below-trend yields, the 2011 corn crop is projected to be 12.31 billion bushels. Similarly for cotton, the potential crop was 23.6 million bales. However, due to record abandonment and below trend yields, the 2011 crop is projected to be 15.8 million bales.

The table also illustrates the effect of the potential crop on the supply-use balance sheets, assuming use levels from the December *WASDE* as well as a hypothetical year with record levels of demand. Corn and soybean stocks are currently tight due to two consecutive years with below trend yields coupled with strong demand. A return to normal yields and normal levels of abandonment will greatly increase production and will require very strong demand to support prices. This may be difficult in an environment with strong competition in the export market and domestic demand that has a slowing growth rate. Cotton and wheat are the most susceptible to lower prices if production was at a normal level. Both cotton and wheat have large stocks globally. Domestic prices are supported due to the corn

market's need for acreage (cotton) and potential as a feed input (wheat). Corn prices would weaken with a return to normal production as a rebuilding of stocks would reduce the need to ration supply. Soybean prices would weaken when corn stocks increase or whenever South America has a bumper crop that provides increased completion for exports.

What is the take away message? The commodity markets have enjoyed very attractive prices the last five years and the pricing potential will continue into this spring as the market bids for 2012 acres. If the market believes that there is a return to normal (or above trend) production levels, then the premium currently bid into commodity prices will decrease. Careful attention should be given to marketing and risk management opportunities in early spring. Pricing opportunities will occur and managers should consider pricing some of their expected production.

	Corn		Soybeans		Wheat		Cotton	
	<u>Potential</u> ^{1/}	<u>Actual</u>	<u>Potential</u>	<u>Actual</u>	<u>Potential</u>	<u>Actual</u>	<u>Potential</u>	<u>Actual</u>
Planted Acres (Million)	92.3	91.9	75.2	75.0	56.4	54.4	14.72	14.72
Harvested Acres (Million)	84.8	83.9	74.2	73.7	47.9	45.7	13.10	9.85
% Abandoned	-8.1%	-8.7%	-1.30%	-1.7%	-15.0%	-16.0%	-11.0%	-33.1%
Yield (bu/acre or lbs/acre)	162.1	146.7	43.4	41.3	44.4	43.7	867	771
Total Production (million)	13,747	12,310	3,222	3,046	2,129	1,999	23.66	15.83
Total Supply (million)	14,890	13,453	3,452	3,275	3,111	2,982	26.27	18.44
<u>December WASDE Use Projections for 2011-12</u>								
Total Use (million) ^{2/}	12,605	12,605	3,045	3,045	2,103	2,103	14.90	14.90
Ending Stocks (million)	2,285	848	407	230	1,008	878	11.33	3.50
Stocks-Use (%)	18.1%	6.7%	13.4%	7.6%	47.9%	41.7%	76.1%	23.5%
Days of Stocks (days)	66	25	49	28	175	152	278	86
<u>What if Use for 2011-12 was at Record Levels</u> ^{3/}								
Total Use (million)	13,200		3,250		2,420		18.5	
Ending Stocks (million)	1,690		202		691		7.73	
Stocks-Use (%)	12.8%		6.2%		28.5%		41.8%	
Days of Stocks (days)	47		23		104		153	

1/ Potential is the June Acreage estimates, the trend yield from 1996-2010, and the average % planted acreage abandoned from 2006-2007,

2/ Total Supply assumes the Beginning Stocks and Import levels from the December 2011 WASDE .

3/ The "What If" analysis assumes the use levels are at all-time record levels. This is for illustrative purposes and is not a forecast.

Energy Update: "Ethanol and the Road into 2012"

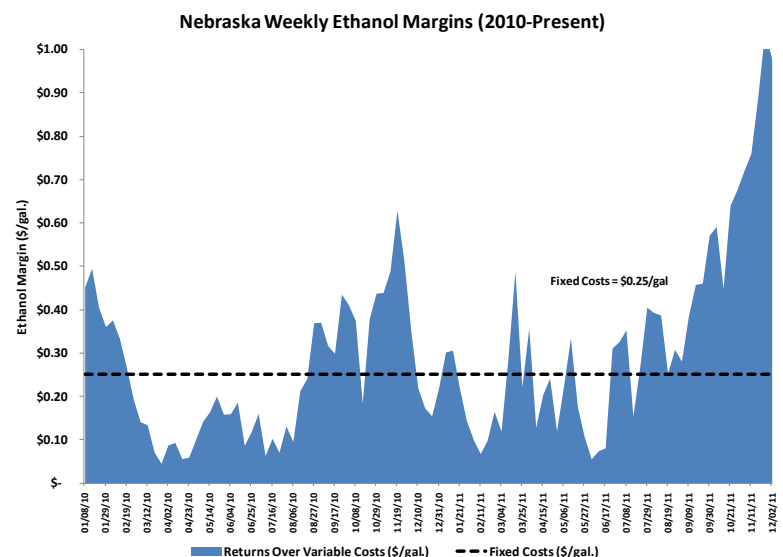
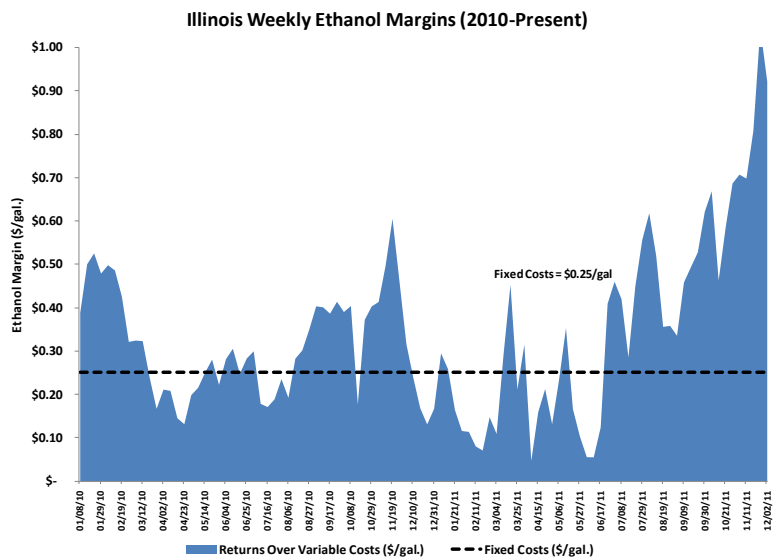
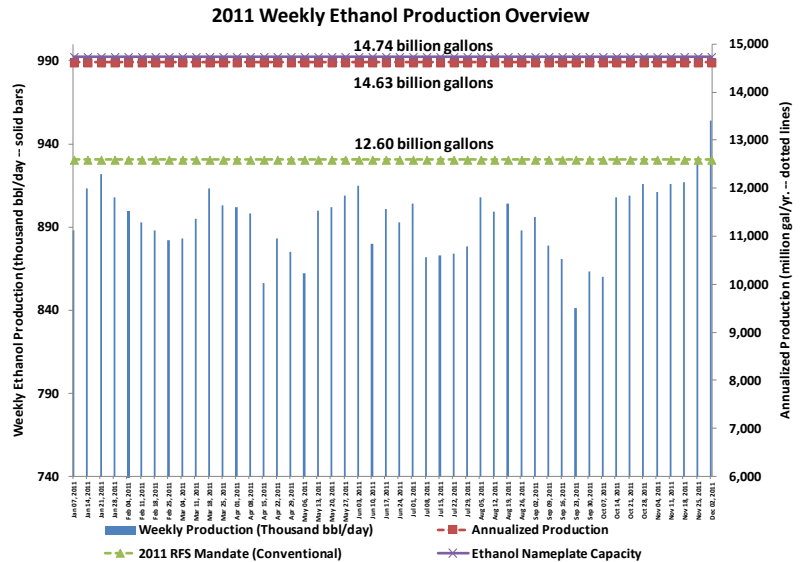
For the most part, 2011 has brought many obstacles to the forefront of markets and policy. Over the past year, we have seen a conflict in the Middle East and North African region spike oil prices to levels not seen since 2008, a national debt in the United States exceeding \$15 trillion that has led to a budget crisis, and a European sovereign debt crisis that ultimately has an unknown affect on the global marketplace. The fact is that 2011 brought about many challenges that could impact 2012 and also future years to come. The challenge will be to confront these challenges head on and create solutions that will lead to the overall answer(s). And if that isn't a challenge all together...

Ethanol Production: A Record High

Week ending December 2 brought record highs in ethanol production at 954,000 barrels per day. Over the past month, ethanol production has been steadily increasing. In fact, since week ending November 4 to week ending December 2, ethanol production increased approximately 5 percent. In the more short-term, from week ending November 25 to week ending December 2, ethanol production in the U.S. increased 24,000 barrels per day to 954,000 barrels a day. On an annualized basis, ethanol production for 2011 is on pace for approximately 14.63 billion gallons, which is 2.03 billion gallons over the RFS2 mandate for 2011. In addition, ethanol production is near nameplate capacity at 14.74 billion gallons for 209 nameplate refineries. The current level of ethanol production is expected to increase inventory levels given the low seasonal demand for fuel. Ethanol inventories rose to a four month high to 17.9 million barrels which was a 5.2 percent increase week-over-week, over a 9 percent increase month-over-month and a 9.5 percent increase year-over-year.

Ethanol Margins

Ethanol margins continued to post strong levels over the past month (November 4 – December 2). During this time period, Illinois producer margins over variable costs have increased from \$0.71 per gallon to \$0.92 per gallon and Nebraska from \$0.72 per gallon to \$0.98 per gallon. Iowa producer margins were not calculated due to corn basis data being unavailable. Over this 4-week time period, the price of corn decreased while the price of ethanol stayed relatively stable. Nearby futures for corn decreased nearly 9 percent while ethanol prices stayed relatively consistent at \$2.80 per gallon. One of the main



reasons for the increase in demand for ethanol is the recent strength of refiner-blenders to capture the last months of the \$0.45 per gallon ethanol tax credit which is set to expire by the end of 2011 along with strong export demand. However, bearish factors impacting the price for gasoline are intact as the European debt crisis, concerns of global economic growth and fuel demand and the ramp up of Libyan crude oil production start to affect the marketing landscape.

Ethanol margins over the past month reached record highs. However, with the likelihood of the \$0.45 per gallon tax credit expiring at the end of the year, it will become more difficult for ethanol to stay competitive with gasoline. Just recently, ethanol prices took a nose dive to around \$2.10 per gallon, putting a dent into ethanol margins. With this crash in ethanol prices, expect the month of December to report lower average margins. However, ethanol continues to be discounted over gasoline by approximately \$0.47 per gallon without the \$0.45 per gallon tax credit.

Ethanol's Future: The Past to the Present and Beyond

To-date, corn-based ethanol is the leading source of renewable fuel production. With the help of rising oil prices, government policies, the emergence of E15 and increased exports, ethanol production has increased 7-fold over the past decade. In 2010, approximately 13.23 billion gallons of ethanol were produced while approximately 1.63 billion gallons of ethanol were created in 2000. Even with the \$0.45 per gallon blender tax credit and the \$0.54 per gallon import tariff expected to be eliminated by December 31, 2011, ethanol production is still projected to be over the RFS conventional biofuel mandate. By 2020, the FAPRI baseline indicates that approximately 16.2 billion gallons of ethanol will be produced, which is 1.2 billion gallons over the 15 billion gallon mandate for 2020. However, as indicated between years 2011 and 2012 in the figure below (page 7), the elimination of the \$0.45 per gallon tax credit and the \$0.54 per gallon import tariff will have a slight impact on production. From marketing year 2010/2011, ethanol production (from corn) is projected to be approximately 13.57 billion gallons. However, ethanol demand will continue to be intact as long as the life of the RFS as in place.

What's next for ethanol in 2012? Here is what we do know. The RFS mandate for renewable biofuel is set to increase from 12.6 billion gallons to 13.2 billion gallons; the E10 blend wall is now (give or take) 13.5 billion gallons. The \$0.45 per gallon tax credit and the \$0.54 per gallon tariff are expected to be eliminated at the end of 2011. Elimination of the tax credit and the import tariff is projected to slightly reduce ethanol production to 13.51 billion gallons for marketing year 2011/2012. Furthermore, expect ethanol production to be slower at the beginning of 2012 due to hefty inventories of ethanol being worked off from 2011. However, the FAPRI baseline indicates that ethanol production will continue to climb after each subsequent marketing year after 2011/2012. This suggests that markets will experience a short-term shock from the elimination of the blender's credit and the import tariff, but will make adjustments to the loss of these policies in order to continue to increase ethanol production in future years. However, the impact from the elimination of the blender's credit and the import tariff are highly market sensitive and are highly dependent on the price of crude oil, price of gasoline and other economic factors influencing the markets. Bring on 2012...

U.S. Historical Ethanol Production vs. RFS2 Mandate (1990-2020F)

