

# Corn & Grain Sorghum Market Situation & Outlook

Daniel O'Brien – Extension Agricultural Economist, K-State Research and Extension

September 1<sup>st</sup>, 2011

## I. U.S. Corn Market Situation and Outlook

- A. **2011 U.S. Corn Production Prospects**: Diminishing 2011 U.S. corn yield prospects and uncertainty regarding final harvested acreage have led to declines in expected 2011 U.S. corn production.
- a. **Lower Yields & Production**: Recent weekly declines in the condition of U.S. corn conditions increase the likelihood that 2011 U.S. corn yields and production could fall below the USDA August projections of 153 bushels per acre and 12.914 billion bushels, respectively (**see Table 1**).
    - i. Corn yield estimates near 148-150 bushel per acre, and 2011 production estimates in the 12.250 – 12.500 billion bushel range, if realized, would lead to markedly tighter corn supply-demand prospects for MY 2011/12.
  - b. **Variability of August-to-November Corn Production Forecasts**: USDA August projections of U.S. corn production have an appreciable degree of historic variability relative to final corn size, with some cases of sizable forecast errors occurring in past years.
    - i. Since 1981 USDA August projections of U.S. corn production have been too high 37% of the time, and too low 63% of the time (**Figure 1**).
    - ii. When August forecasts have been **too high**, they have averaged 5.5% higher than November estimates, with an 8.3% forecast standard error.
    - iii. When August forecasts have been **too low**, they have averaged 3.6% lower than November estimates, with a 4.4% forecast standard error.
    - iv. Since 1981, the years with the largest decline in U.S. corn production forecasts by the USDA from August to November have been 2000 (7.1% decline), 1999 (6.9% decline), 1984 (6.5% decline), and 1980 (5.6% decline). In 2010, USDA U.S. corn production projections declined 1.7% from August to November (**Figure 2**).
- B. **MY 2011/12 U.S. Corn Supply-Demand Balances**: With tightening production and total supply, projected U.S. corn supply-demand balances have also tightened, with emerging prospects of significant rationing of corn usage in MY 2011/12 (**Table 1**).
- a. **Rationing Corn Use**: The degree to which usage of corn for ethanol production, corn wet milling, livestock feeding or exports will be “rationed” or “limited” by record high corn prices will depend on several key economic factors.
    - i. These factors include a) the inflexibility of demand and price responsiveness of U.S. gasoline demand, b) livestock/meat prices and feeding profitability, c) strength of consumer demand for processed corn products, and d) the value of the U.S. dollar relative to the currencies of countries involved in World coarse grain export / import trade.

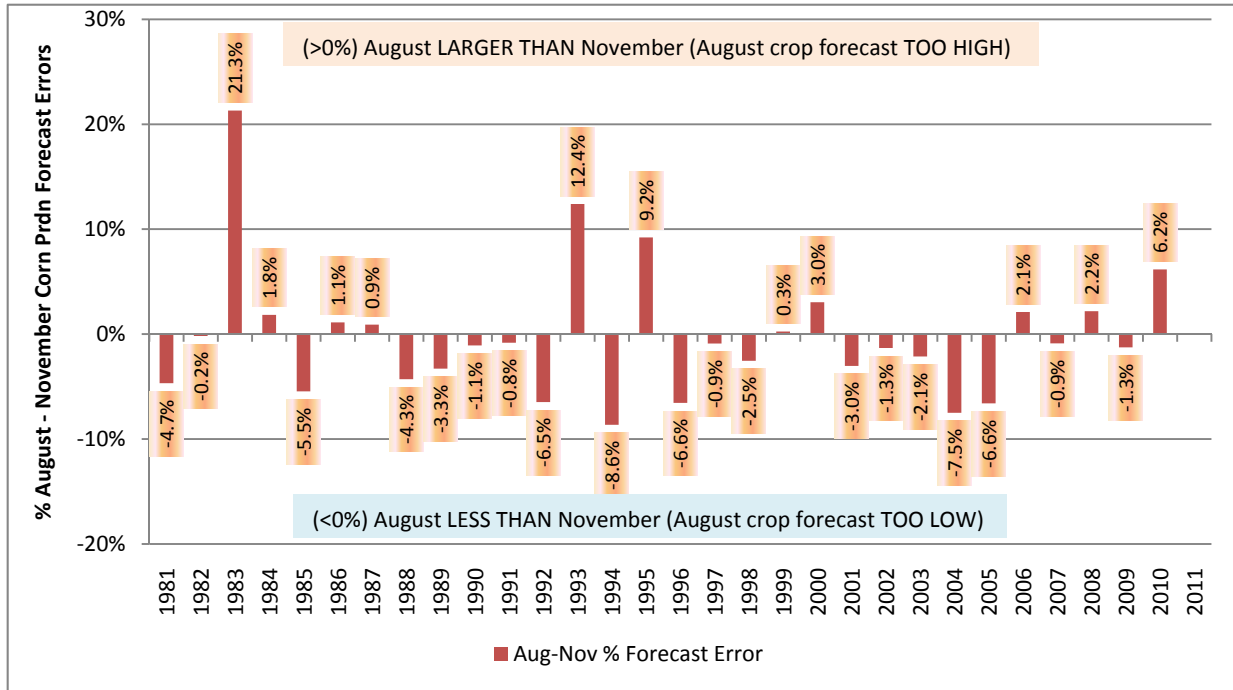
- b. **Recent Corn Use Trends:** Recent USDA projections of tighter livestock feeding of corn in MY 2011/12 are a continuation of a five year trend (since MY 2007/08) in the livestock industry (**Figure 3**). Exports of U.S. Corn are projected to decline for the third consecutive year (since MY 2009/10). Year-to-year increases in corn ethanol usage of corn are projected to continue but to moderate in response to high corn input prices, likely ethanol policy changes, and prospects for moderations in U.S. gasoline demand.
- c. **Ending Stocks-to-Use & Corn Prices:** Projected MY 2011/12 U.S. corn prices have responded sharply to the high side in response to tightening of U.S. corn ending stocks-to-use. The trend which began in MY 2010/11 has continued in MY 2011/12, and is very likely to persist into MY 2012/13 (**Figure 4**).
- i. Persistent growth has occurred in U.S. and World usage for corn and other coarse grains since MY 2007/08. This resilient growth trend has occurred even though during this period historically high corn / coarse grain prices have occurred in 2008 and again in 2010-11.
- d. **World Coarse Grain Supply-Demand Trends:** World demand growth in the form of bioenergy use and livestock feeding is a primary factor explaining record high U.S. corn prices – along with a likely second consecutive year of lower than expected U.S. corn production.
- C. **Persistence of Tight Supply-Demand for Corn into MY 2012/13:** Given a) the likelihood of historically tight ending stocks for U.S. corn in MY 2011/12 and b) competition for U.S. crop acres from soybeans and other crops in spring 2012, ***concerns about the adequacy of U.S. corn supplies and supply-demand balances are likely to persist into MY 2012/13***, and to cause corn market price volatility through the 2012 U.S. corn growing season.

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**Table 1. U.S. Corn Supply-Demand Balance Sheet: MY 2007/08 through MY 2011/12**  
(August 11, 2011 USDA WASDE Report)

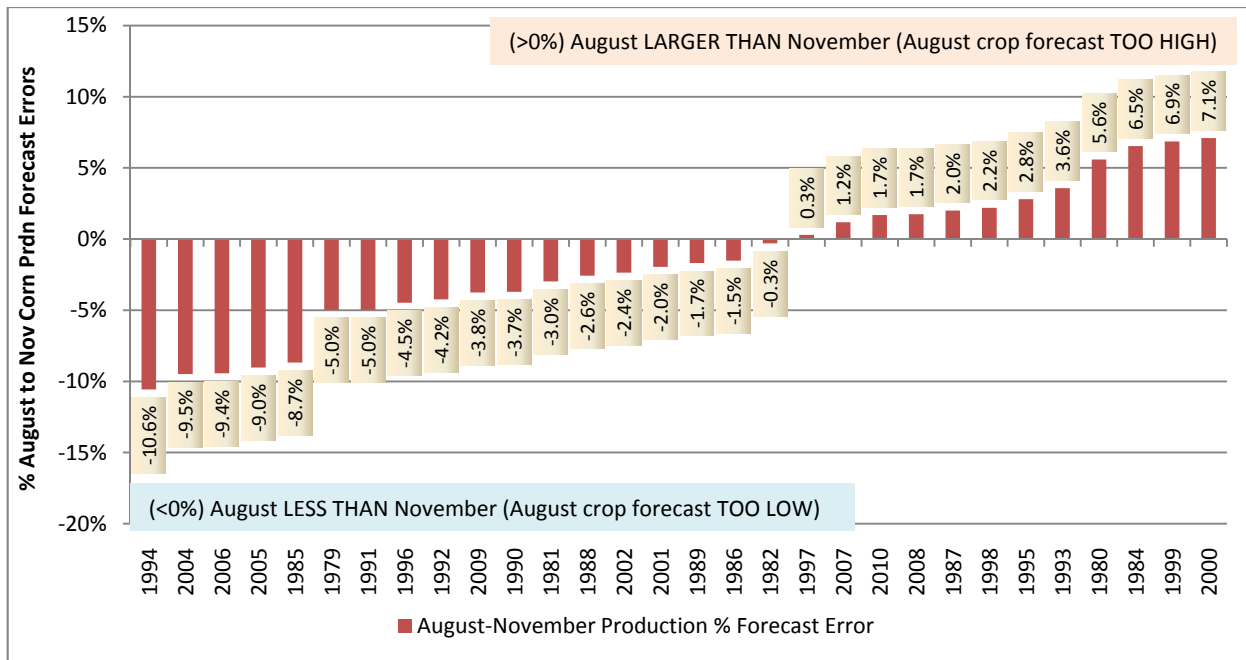
Item	2007/08	2008/09	2009/10	2010/11	2011/12
Planted Area (million acres)	93.5	86.0	86.4	88.2	92.3
Harvested Area (million acres)	86.5	78.6	79.5	81.4	84.4
Yield per harvested acre (bushels/acre)	150.7	153.9	164.7	152.8	153.0
	million bushels				
Beginning Stocks	1,304	1,624	1,673	1,708	940
Production	13,038	12,092	13,092	12,447	12,914
Imports	20	14	8	30	20
Total Supply	14,362	13,729	14,774	14,185	13,874
Ethanol for fuel	3,049	3,709	4,591	5,020	5,100
Non-ethanol Food, Seed & Industrial	1,393	1,316	1,370	1,400	1,410
Exports	2,437	1,849	1,980	1,825	1,750
Feed & Residual	5,858	5,182	5,125	5,000	4,900
Total Use	12,737	12,056	13,066	13,245	13,160
Ending Stocks	1,624	1,673	1,708	940	714
% Ending Stocks-to-Total Use	12.8%	13.9%	13.1%	7.1%	5.4%
U.S. Average Farm Price (\$/bushel)	\$4.20	\$4.06	\$3.55	\$5.20-\$5.30 Midpoint = \$5.25	\$6.20-\$7.20 Midpoint = \$6.70

**Figure 1. U.S. Corn Production August-to-November % Forecast Accuracy (1981-2010)\***

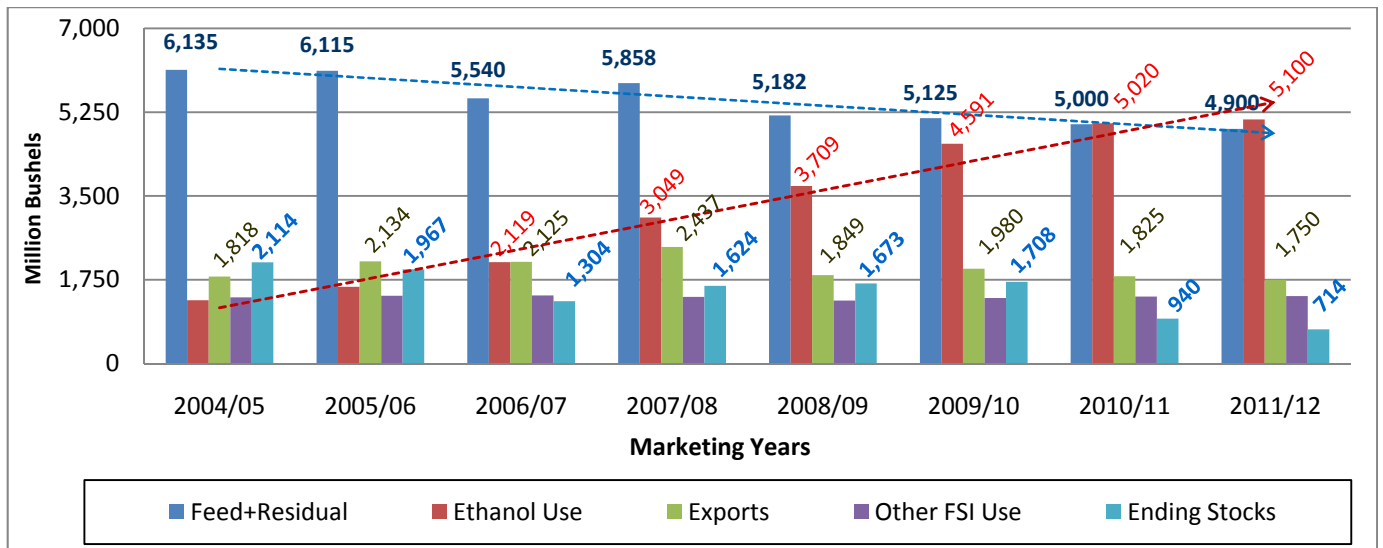


\* Since 1981, USDA August corn production forecasts have been too high 37% of the time (11/30 years), and too low 63% of the time (19/30 years). The average % forecast error for when August forecasts have been too high (i.e.,  $ProdnAug - ProdnNov > 0\%$ ) is 5.5%, with a standard deviation of the forecast error of 8.3% in these situations. The average % forecast error for when August forecasts have been too low (i.e.,  $ProdnAug - ProdnNov < 0\%$ ) is -3.6%, with a standard deviation of the forecast error of 4.4% in these cases.

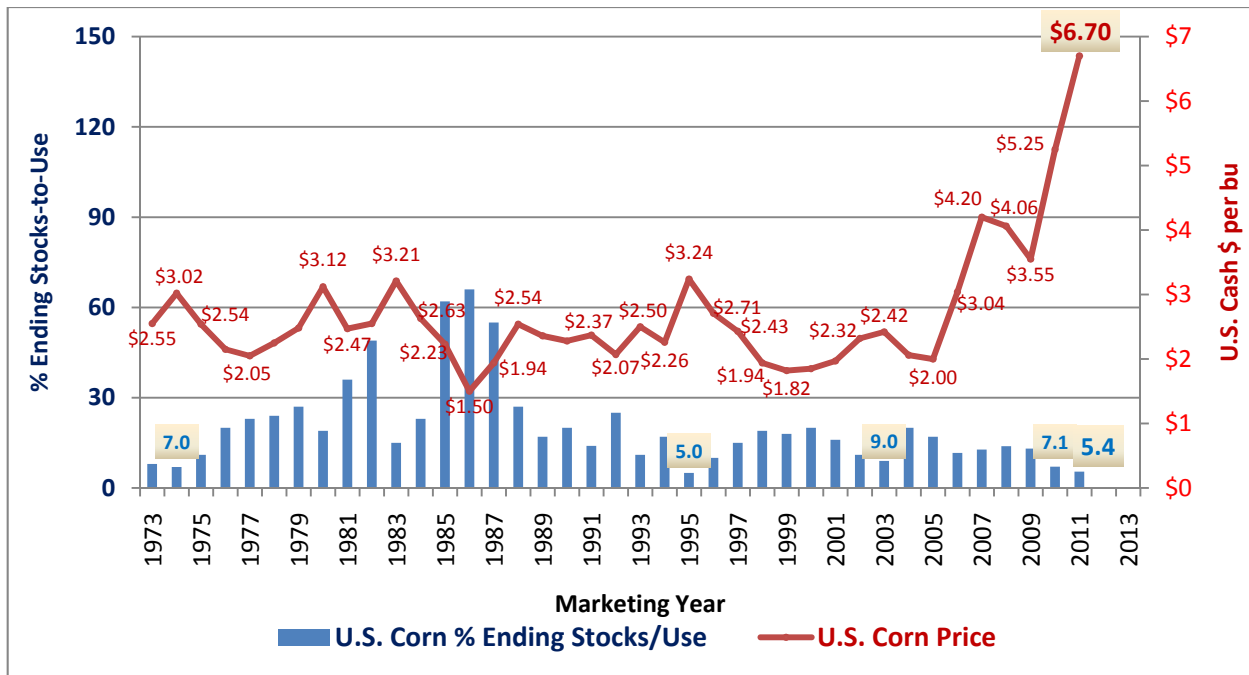
**Figure 2. U.S. Corn Production August-to-November % Forecast Accuracy (1981-2010) – Arranged from TOO LOW to TOO HIGH.**



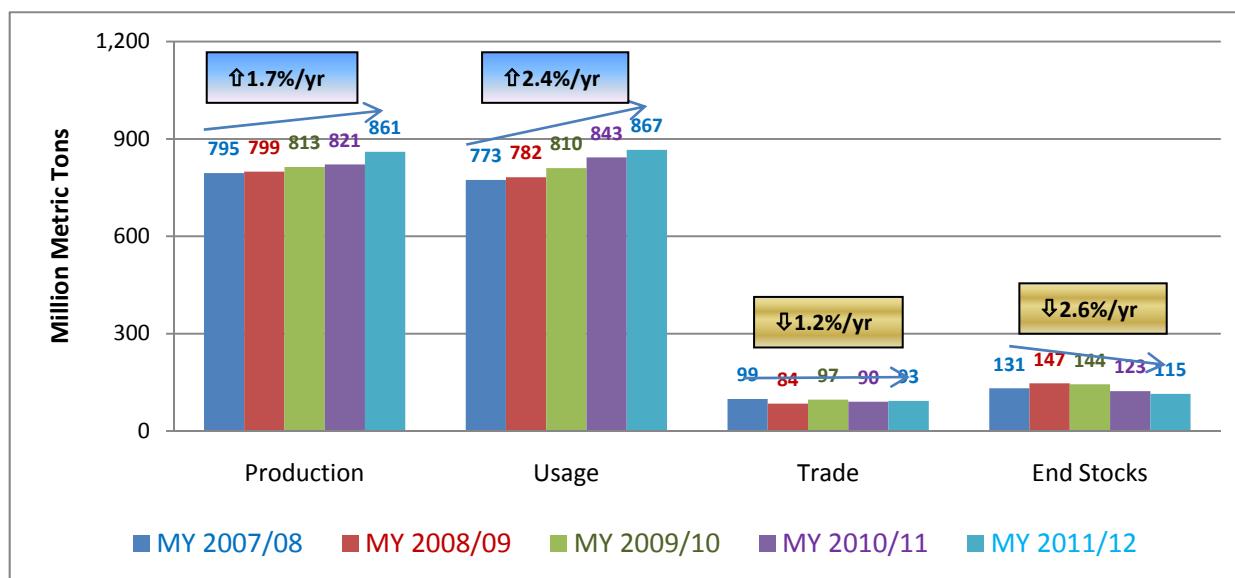
**Figure 3. Trends in U.S. Corn Use and Ending Stocks: MY 2004/05 through MY 2011/12**  
 (August 11, 2011 USDA WASDE Report)



**Figure 4. U.S. Corn Ending Stocks vs U.S. Avg. Cash Prices: MY 1973/74 through MY 2011/12**  
 (August 11, 2011 USDA WASDE Report)



**Figure 5. World Corn Usage & Ending Stocks: MY 2007/08 thru MY 2011/12**  
(August 11, 2011 USDA WASDE Report)



## II. U.S. Grain Sorghum Market Situation and Outlook

- A. **2011 U.S. Grain Sorghum Production Prospects:** Extreme drought in the key U.S. grain sorghum producing states of Texas and (parts of) Kansas have markedly decreased 2011 U.S. grain sorghum yield and production prospects.
- Lower Yields & Production:** The USDA lowered both its projections of harvested acreage (down 200,000 acres to 4.4 million) and projected yield (down to 54.8 bushels per acre from 65.4) in the August Crop Production report. 2011 U.S. grain sorghum production is projected to be 241 million bushels (mb), down from 327 mb in July, and from 345 mb in 2010 and 383 mb in 2009. Extreme drought and competition from other crops for acreage are primary factors leading to declining U.S. grain sorghum production (see Table 2).
- B. **MY 2011/12 U.S. Grain Sorghum Supply-Demand Balances:** Due to lower production and total supply and competitive feedgrain market impacts from tightening U.S. corn supplies, projected U.S. grain sorghum supply-demand balances have also tightened, with emerging prospects of significant rationing of grain sorghum usage in MY 2011/12 (Table 2).
- Reduced Grain Sorghum Usage Trends:** A fundamental lack of available supplies is leading to reductions in U.S. grain sorghum usage in several major industries. All types or categories of grain sorghum usage have declined substantially since at least MY 2009/10 (Figure 6).
  - Tighter corn supplies have led to increased use of grain sorghum and also wheat as a competitive substitute as feedgrain users have “scrambled” to fill their needs. Given the likelihood of extreme price rationing that may occur for U.S. corn, strong usage of grain sorghum is expected to continue for remaining supplies, with limited prospects of weakening in for MY 2011/12 or MY 2012/13.

b. **Ending Stocks-to-Use & Corn Prices:** Projected MY 2011/12 U.S. grain sorghum prices have responded sharply to the high side in response to tightening of U.S. feedgrain (corn, grain sorghum, barley and oats) ending stocks-to-use. The trend toward lower U.S. grain sorghum stocks began in MY 2009/10 has continued in MY 2011/12, and is very likely to persist into MY 2012/13 (Table 2).

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**Table 2. U.S. Grain Sorghum Supply-Demand Balance Sheet: MY 2007/08 through MY 2011/12**  
(August 11, 2011 USDA WASDE Report)

Item	2007/08	2008/09	2009/10	2010/11	2011/12
Planted Area (million acres)	7.7	8.3	6.6	5.4	5.3
Harvested Area (million acres)	6.8	7.3	5.5	4.8	4.4
Yield per harvested acre (bu./acre)	73.2	65.0	69.4	71.8	54.8
	million bushels				
Beginning Stocks	32	53	55	41	27
Production	497	472	383	345	241
<b>Total Supply</b>	<b>530</b>	<b>525</b>	<b>438</b>	<b>387</b>	<b>267</b>
Food, Seed & Industrial	35	95	90	85	80
Exports	277	143	166	150	110
Feed & Residual	165	233	141	125	55
<b>Total Use</b>	<b>477</b>	<b>471</b>	<b>396</b>	<b>360</b>	<b>240</b>
Ending Stocks	53	55	41	27	22
% Ending Stocks-to-Total Use	11.1%	11.7%	10.4%	7.5%	9.2%
U.S. Average Farm Price (\$/bu.)	\$4.08	\$3.20	\$3.22	\$5.15-\$5.25 Midpoint = \$5.20	\$6.00-\$7.00 Midpoint = \$6.50

**Figure 6. Trends in U.S. Grain Sorghum Use & Ending Stocks During MY 2004/05 thru MY 2011/12**  
(August 11, 2011 USDA WASDE Report)

