USDA WASDE Report - Corn & Grain Sorghum Market Impacts

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Summary

The September 12th USDA reports projected a significant decline in 2011 U.S. corn yields and production, significant rationing of usage, near record tight ending stocks, and record high corn prices. Grain sorghum production has been hurt by drought in key areas, with prices following closely with those of corn.

In its September 12th Crop Production report, the USDA National Agricultural Statistical Service projected U.S. 2011 corn yields to be 148.1 bushels per acre yield, the lowest yield level since 148.0 in 2005. Corn production was projected to be 12.497 billion bushels, slightly larger than in 2010, but markedly lower than July 2011 projections of 13.470 billion. In the September World Agricultural Supply and Demand Estimates report, the USDA projected that significant price rationing would occur in the 2011/12 marketing year, with marked reductions in projected livestock feed use, exports, and ethanol usage. Corn input buyers are likely to find it less profitable to buy and produce products with record high corn prices in the $6.50-$7.50 range as projected by the USDA.

The projected outcome of the severe price rationing projected for MY 2011/12 is that ending stocks are projected to decline to 672 million bushels, with % ending stocks-to-use falling to 5.3%. This level of stocks-to-use is still marginally above the record low of 5.0% in MY 1995/96, and if realized would be the second lowest on record.

Even with these projected declines in supply, 2011 U.S. corn yields and production prospects continue to be uncertain, with the possibility of yields and production estimates being reduced further by the USDA due to number of possible reasons, including a) reductions in harvested acreage, b) the possibility of future freeze damage in the northern plains, c) more extreme damage in drought damaged areas of the central and southern plains and the southeastern U.S. than currently accounted for, or d) simply lower yields in the Corn Belt than have been projected to date.

Grain sorghum production in the U.S. in 2011 has been damaged severely by drought in the southern and central Plains – traditionally the leading areas for U.S. grain sorghum production (i.e., Kansas and Texas). Grain sorghum stocks are at minimal levels logistically speaking, and grain sorghum prices are following closely to those of corn.

These reports point toward tight supply-demand conditions and historically high feedgrain prices from fall 2011 through spring-summer 2012. There will likely be strong pressure to at least maintain if not significantly increase 2012 U.S. corn acreage in an attempt to rebuild or replenish U.S. corn supply-demand balances. Grain markets in 2012 will likely continue to be extremely sensitive to any threats to U.S. corn production. If per chance dry conditions were to continue in the U.S. in 2012 in key corn and grain sorghum production areas, high feedgrain prices would persist, with the likelihood of major damaging impacts occurring on domestic corn using industries.

I. U.S. Corn Market Situation and Outlook

A. **Lower 2011 U.S. Corn Production Prospects**: In its September Crop Production report, the USDA National Agricultural Statistical Service (NASS) lowered its projection of 2011 U.S. corn production by 3.25%, to levels that will maintain corn prices at a high level and lead to serious rationing on corn usage in MY 2011/12 (**see Table 1**).

a. **U.S. 2011 Corn Yields = 148.1 bu/acre**: USDA NASS projected 2011 U.S. corn yields at 148.1 bu/acre, down from 153 bu in August. Corn yield prospects in 2011 have been affected by the cumulative impact of a) difficult spring planting conditions in the eastern and northern Corn Belt, b) hot, dry July and August weather in parts of the Corn Belt, and c) continuing drought in the southern and central Plains and the southeastern United States.

i. Over the last 5 years, U.S. corn yields have been 150.7 bu/ac in 2007, 153.9 bu/ac in 2008, 164.7 bu/ac in 2009, 152.8 bu/ac in 2010, and are now projected to be 148.1 bu/ac in 2011.

ii. If the 2011 U.S. corn yield projection of 148.1 bu/ac holds true, the record high yield of 164.7 bu/ac will have been 7% higher than the next highest yield of 153.9 bu/ac (2008) during this period, and 8.8% higher than the average yield of 151.4 bu/ac for other year's yields since 2007.

Commentary: Expectations of U.S. trendline yields of 165 bu/ac or more since 2009 have not been met in either 2010 or 2011, and will effectively lead to lower trendline corn yield projections for 2012.

b. **U.S. 2011 Corn Production = 12.497 billion bushels**: USDA NASS projected 2011 U.S. corn production to be 12.497 billion bushels (bb), down 417 million bu (mb) in August. Uncertainty about final 2011 U.S. corn planted and harvested acreage still exists – following from planting delays in spring 2011 and major flooding events along the Missouri, Ohio and Mississippi rivers and their tributaries. If adjustments / reductions to 2011 corn planted and/or harvested acreage do occur, it will likely be reflected in the October or November USDA NASS Crop Production reports.

i. Over the last 5 years, U.S. corn production has been 13.038 bb in 2007, 12.092 bb in 2008, 13.092 bb in 2009, 12.447 bb in 2010, and is now projected to be 12.497 bb in 2011.

ii. If the 2011 U.S. corn production projection of 12.497 bb holds true, this will be the third largest U.S. corn crop in history, trailing only 2007 and 2009.

Commentary: The inability to meet U.S. trendline yields of 165 bu/ac or more since 2009 have caused a dramatic tightening of U.S. corn ending stocks and % ending stocks-to-use in MY 2010/11 and again in MY 2011/12. Either a return to trendline U.S. corn yields, a large increase in U.S. corn acreage, or a sizable reduction in U.S. corn usage will be needed to rebuild U.S. corn stocks in MY 2012/13 and later years.

B. **"Old Crop" U.S. Corn Supply-Demand for MY 2010/11**: In its September 12th World Agricultural Supply and Demand Estimates (WASDE), the USDA World Agricultural Outlook Board made a number of minor adjustments to usage, ending stocks, and price estimates (**Table 1 & Figure 1**).

Small increases in exports (1.835 bb, up 10 mb), and non-ethanol food, seed and industrial usage (1.410 bb, up 10 mb) led to increased total use (13.265 bb, up 20 mb), and to decreased ending stocks (920 mb, down 20 mb).

a. **% Ending Stocks-to-Use (6.9%) & Prices ($5.20 /bu) for MY 2010/11**: Projected % ending stocks-to-use of 6.9% for "old crop" MY 2010/11 is the third lowest since MY 1973/74, behind only 5.0% in MY 1995/96 and the projection of 5.3% for "new crop" MY 2011/12. U.S. average corn price estimates for MY 2010/11 were lowered slightly to $5.20 per bushel, down from a range of $5.20-$5.30 in the August WASDE report.

C. **"New Crop" U.S. Corn Supply-Demand for MY 2011/12**: In response to markedly lower 2011 U.S. corn production prospects, in its September 12th WASDE report, the USDA World Agricultural Outlook Board made a number of significant adjustments to supplies, usage, ending stocks, and price estimates (**Table 1 & Figure 1**). These changes reflect the impact of high U.S. corn prices and resulting rationing of usage that is expected in response.

a. **Lowest U.S. Corn Total Supplies since MY 2007/08 = 13.432 bb**: With projected MY 2011/12 beginning stocks of 920 bb (down 20 mb and the lowest since MY 1996/97), 2011 production of 12.497 bb, and imports of 15 mb (down 5 mb), total supplies of U.S. corn for MY 2011/12 are projected to be 13.432 bb.

i. Projected total U.S. corn supplies of 13.432 bb for MY 2011/12 are the lowest since 12.510 bb in MY 2006/07, and are 5.8% below the average of 14.262 bb U.S. total supplies for MY 2007/08 through MY 2010/11 (**Table 1 & Figure 2**).

Commentary: The combination of tight beginning stocks (following a short corn crop the previous year) and less than anticipated production has led to the current tight, at risk supply situation for U.S. corn in MY 2011/12. For next year, i.e., MY 2012/13, prospects for extremely tight beginning stocks will place all that much more anxiety in corn markets over any real or perceived threat to 2012 U.S. corn production. Because of what are likely to be minimal new crop beginning stocks for U.S. corn in MY 2012/13, grain markets are likely to remain extremely volatile through at least the early summer of 2012.

b. **Total Corn Use Down to 12.760 bb in MY 2011/12**: Following from expectations of reduced new crop total U.S. corn supplies, the USDA projected that price rationing would bring about significant cuts in U.S. corn usage in order to maintain minimal required ending stocks for MY 2011/12 (**Table 1 & Figure 1**).

i. Ethanol Use = 5.000 bb: The USDA lowered its projection of U.S. corn usage for ethanol in MY 2011/12 to 5.00 bb, down 100 mb from August. If this projection holds true, it would be the first year-to-year reduction in U.S. corn ethanol usage since the record tight ending stocks-to-use year of MY 1995/96. Concerns about whether ethanol demand will maintain in light of weakness in the general economy and the uncertainty about the impact of likely changes in government funding for ethanol blenders credits and tariff protection in 2012 may factor into this downward adjustment.

ii. Non-ethanol FSI Use = 1.410 bb: No changes were made in non-ethanol food, seed and industrial use of corn of 1.410 bb. This amount of non-ethanol FSI use is just under the record large amounts of 1.416-1.422 bb during the MY 2005/06-MY 2006/07 period.

iii. Export Use = 1.650 bb: The USDA lowered its projection of U.S. corn exports in MY 2011/12 to 1.650 bb, down 100 mb from August. If this projection holds true, it would be the 5th lowest amount of U.S. corn exports MY 1990/91 – following 1.584 bb in MY 1991/92, 1.328 bb in MY 1993/93, 1.504 bb in MY 1997/98, and 1.588 bb in MY 2002/03.

Commentary: Increased foreign coarse grain product and total supplies offset some of the decrease in combined U.S. corn, grain sorghum, barley and oat production, and more than offsets projected U.S. declines in associated feedgrain trade (**Figure 4**). Compared to MY 2010/11, the USDA is projecting that U.S. corn exports while be rationed proportionally more than other categories of usage. Since MY 2010/12 USDA has projected that MY 2011/12 U.S. corn exports would decline 10%, compared to total corn FSI use (down 0.3%) and livestock feed use (down 6%).

iv. Feed & Residual Use = 4.700 bb: The USDA projects MY 2011/12 U.S. corn feed and residual use to 4.700 bb, down 200 mb from August and down 300 mb from the previous year. If this projection holds true, it would be lowest amount of U.S. corn feed and residual use since 4.692 bb in MY 1995/96.

Commentary: This reduction in U.S. livestock feed usage of corn continues the year-to-year downward trend from the record high of 6.135 bb in MY 2004/05. The increased availability of distillers grains from ethanol production for domestic livestock feeding has to some degree offset this reduction in direct U.S. corn livestock feed use.

v. Total Corn Use = 12.760 bb: For MY 2011/12, the USDA projects that total use of corn will be 12.760 bb, down 400 mb from August, and down from 13.265 bb (down 3.9%) in MY 2010/11. If this projection is accurate, MY 2011/12 use would be the lowest since 12.056 bb in MY 2008/09 and 12.737 bb in MY 2007/08.

Commentary: In these preliminary USDA projections of how short supplies and high prices will affect the usage of U.S. corn in MY 2011/12, they are accounting for a number of factors. These 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.

Although these early projections are subject to change, they are consistent with the broader idea that higher corn prices will ration usage to such a degree so as to ensure that adequate supplies of corn will exist in the summer of 2012 (the end of MY 2011/12) to avoid a complete shut down of industries that rely on corn inputs.

c. **Recent Corn Use Trends**: Recent USDA projections of tighter livestock feeding of corn in MY 2011/12 are a continuation of a seven year trend (since MY 2004/05) in the livestock industry (**Figure 1**). 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 are projected to continue - but to moderate in response to high corn input prices, likely ethanol policy changes, and prospects for moderation in U.S. gasoline demand.

C. **"New Crop" Ending Stocks (672 mb) & Ending Stocks-to-Use (5.3%)**: The USDA projects MY 2011/12 ending stocks to be 672 mb, down 42 mb from August, and down from 920 mb in MY 2010/11 and from 1.708 bb in MY 2009/10. The MY 2011/12 projection equals 5.3% ending stocks-to-use, down from 5.4% in August, from 6.9% in MY 2010/11, and from 13.1% in MY 2009/10 (**Figure 2**). These % ending stocks-to-use levels compare to the historic low of 5.0% in MY 1995/96.

Commentary: It is possible that % ending stocks to use levels of 5.0% or less may occur in MY 2011/12 for a number of plausible reasons. **If** there is either a) projected 2011 U.S. corn production is reduced further due to early freeze, more extensive production losses exist than has yet been accounted for, etc., or b) greater usage of corn in any of the major categories than is currently projected later in the marketing year, **then** there is a reasonable possibility of new record low U.S. corn % ending stocks-to-use occurring (i.e., below 5.0%) in MY 2011/12.

Whereas uncertainty about estimates of U.S. corn production typically are mostly resolved by the November or following January crop production reports, questions about whether the rate of usage will lead to reductions in ending stocks are "worked through" in the cash market in the later part of the marketing year. If corn usage is on a more rapid pace than can be sustained to maintain a level of 5.3% endings stocks-to-use for MY 2011/12, then it will likely be reflected in cash corn basis bids, pace of exports and ethanol usage, and in quarterly stocks on March 1st, June 1st and September 1st in 2012.

D. **"New Crop" MY 2011/12 U.S. Corn Prices = $6.50-$7.50 /bu.**: 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 (**Table 1 & Figure 2**).

   a. The USDA projected MY 2011/12 U.S. average corn prices to be record high in the range of **$6.50-$7.50 per bushel**, up $0.30 on each end of the range from August, and up from $5.20 in MY 2011 and $3.55 in MY 2009/10.

      Commentary: Tight corn supplies and high corn prices have provided carryover support for wheat prices. By responding to high corn prices, the wheat market appears to be acknowledging the possibility that large amounts of wheat feeding could occur in from fall 2011 through summer 2012 to make up for shortfalls in the 2011 U.S. corn crop and historically tight MY 2011/12 corn ending stocks. As market arbitrage forces go, as corn prices have moved higher, wheat prices have followed them at levels approximating breakeven feeding opportunities.

E. **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 (**Figure 3**). 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 historically high corn / coarse grain prices have occurred in 2008 and again in 2010-11.

   a. Although MY 2011/12 World coarse grain production (1,131 mmt) and total supplies (1,294 mmt) were down 5.1 and 3.1 mmt from August, respectively, World coarse grain use declined

5.9 mmt to leave projected World coarse grain ending stocks at 150 mmt (up 2.75). World % ending stocks-to-use is estimated at 13.1%, up from 12.8% in August. Increases in foreign coarse grain production and total supplies combined with increased foreign use and ending stocks offset to some degree the major changes that occurred in projected U.S. feedgrain supply-demand for MY 2011/12.

Commentary: Even with the projected increase in World ending stocks, World ending stocks-to-use from coarse grains has declined from 17.6% in MY 2009/10, 14.4% in MY 2010/11, and now to 13.1% for MY 2011/12. A broader trend toward tighter World coarse grain ending stocks is continuing, with a recovery needed in U.S. 2012 crop production to begin to rebuild both U.S. and World coarse grain supply-demand balances.

D. **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
(September 12, 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	148.1
	million bushels				
Beginning Stocks	1,304	1,624	1,673	1,708	920
Production	13,038	12,092	13,092	12,447	12,497
Imports	20	14	8	30	15
Total Supply	14,362	13,729	14,774	14,185	13,432
Ethanol for fuel	3,049	3,709	4,591	5,020	5,000
Non-ethanol Food, Seed & Industrial	1,393	1,316	1,370	1,410	1,410
Exports	2,437	1,849	1,980	1,835	1,650
Feed & Residual	5,858	5,182	5,125	5,000	4,700
Total Use	12,737	12,056	13,066	13,265	12,760
Ending Stocks	1,624	1,673	1,708	920	672
% Ending Stocks-to-Total Use	12.8%	13.9%	13.1%	6.9%	5.3%
U.S. Average Farm Price ($/bushel)	$4.20	$4.06	$3.55	$5.20	$6.50-$7.50 *Midpoint = $7.00*

Figure 1. Trends in U.S. Corn Use and Ending Stocks: MY 2004/05 through MY 2011/12
(September 12, 2011 USDA WASDE Report)

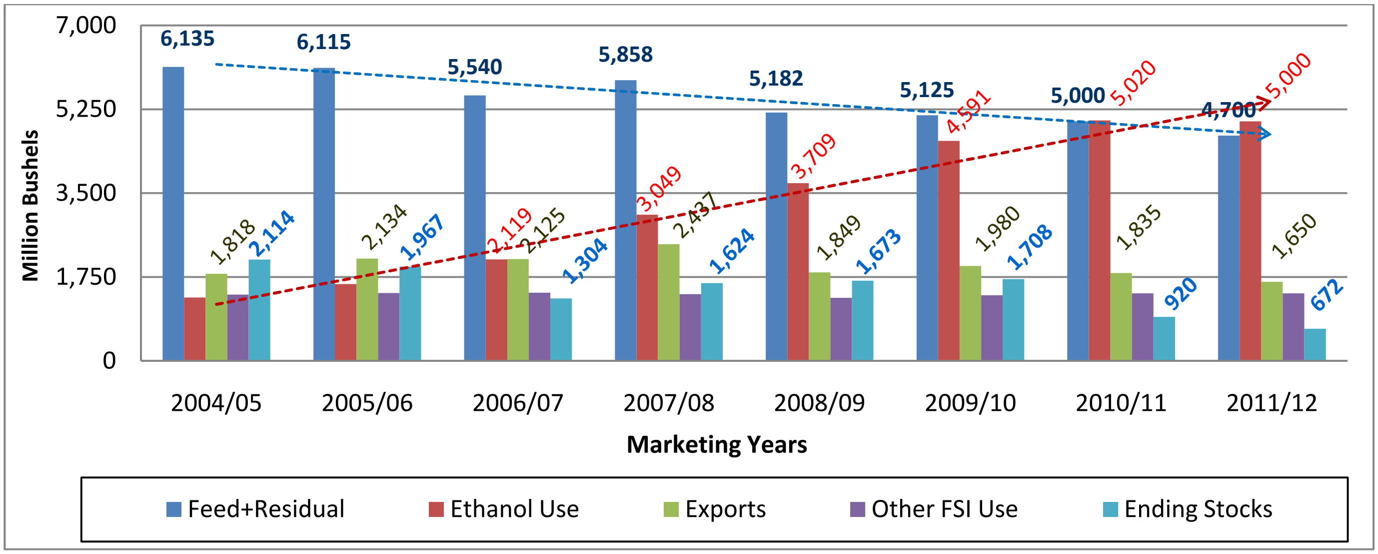


Figure 2. U.S. Corn Ending Stocks vs U.S. Avg. Cash Prices: MY 1973/74 through MY 2011/12
(September 12, 2011 USDA WASDE Report)

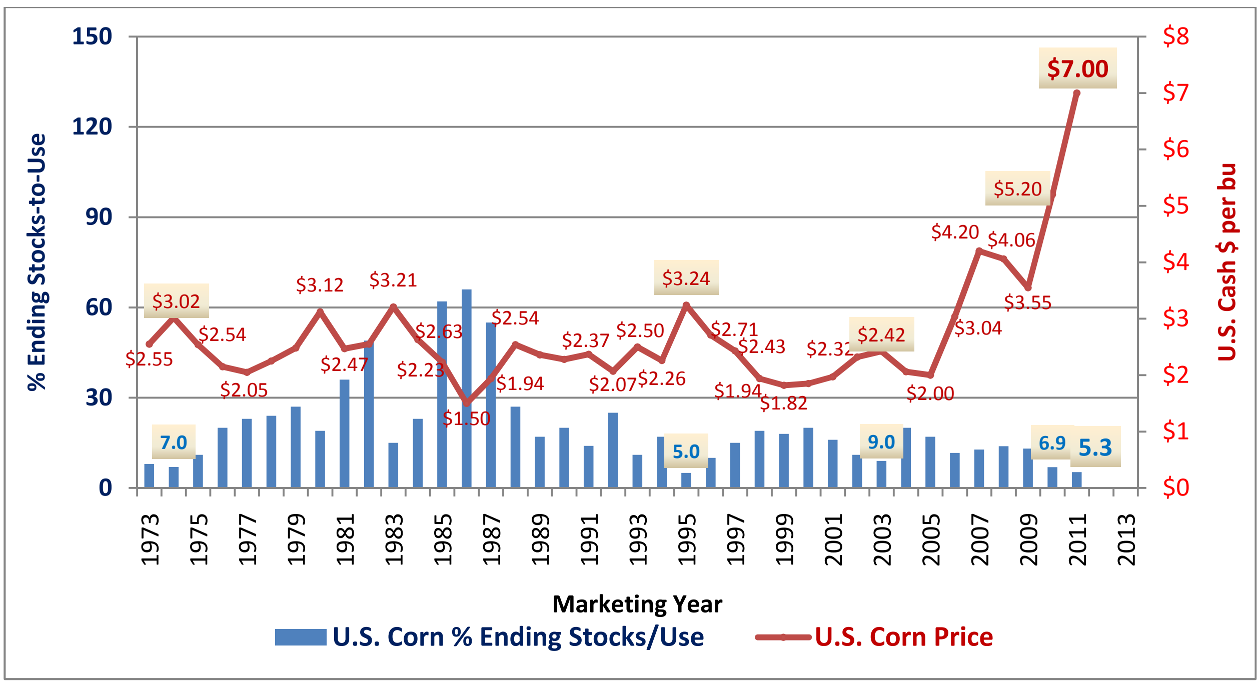
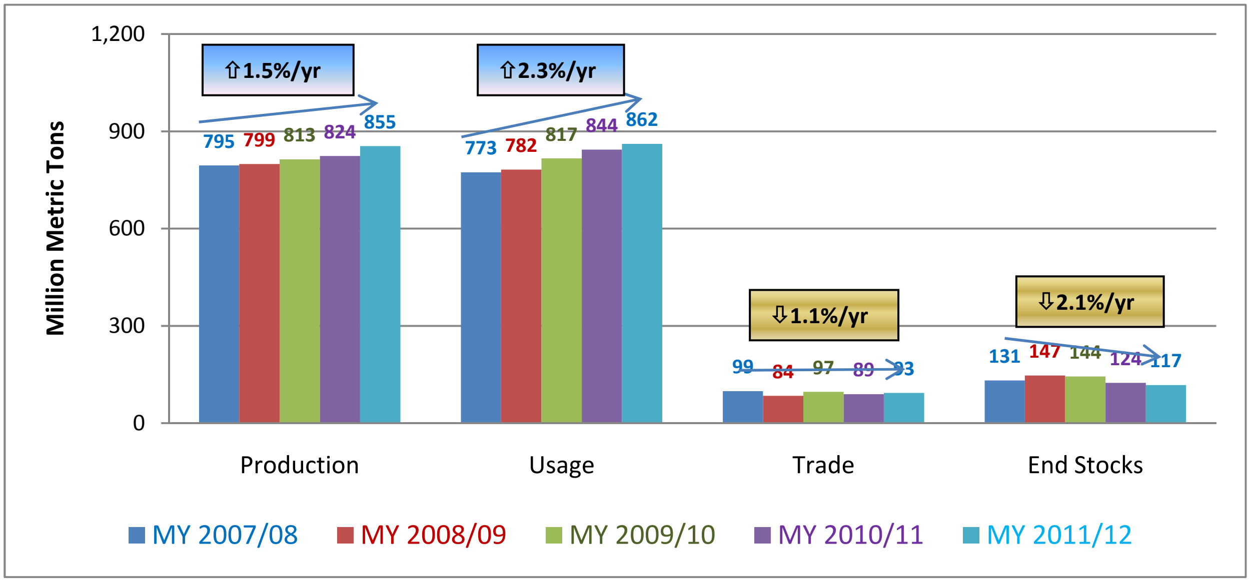


Figure 3. World Corn Usage & Ending Stocks: MY 2007/08 thru MY 2011/12
(September 12, 2011 USDA WASDE Report)



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.

   a. **Lower Yields & Production**: The USDA projected 2011 U.S. grain sorghum average yield to be 55.6 bu/ac, up 0.8 bu from the August Crop Production report, but down from 71.8 bu in 2010 and 69.4 bu in 2009 (Table 2). 2011 U.S. grain sorghum production is projected to be 244 mb, up 3 mb from August, but down 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.

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**).

   a. **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 4**).

   b. **MY 2011/12 Grain Sorghum Usage:** No changes were made in MY 2011/12 U.S. grain sorghum usage from the August report.

C. **Ending Stocks-to-Use & Grain Sorghum 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**).

a. **Ending stocks** were projected at 26 mb (10.6% S/U), up 4 mb from August (reflecting the 4 mb increase in projected 2011 U.S. grain sorghum production).

   Commentary: Although projected MY 2011/12 % ending stocks-to-use of 10.6% are higher than the minimal levels for corn (i.e., 5.3% S/U). The amount of ending stocks is likely at minimum pipeline levels for logistical needs.

b. The USDA projected MY 2011/12 U.S. average grain sorghum prices to be record high in the range of **$6.30-$7.30 per bushel**, up $0.30 on each end of the range from August, and up from $5.15 in MY 2011 and $3.22 in MY 2009/10.

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Table 2. U.S. Grain Sorghum Supply-Demand Balance Sheet: MY 2007/08 through MY 2011/12
(September 12, 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	55.6
	million bushels				
Beginning Stocks	32	53	55	41	27
Production	497	472	383	345	244
Total Supply	530	525	438	387	271
Food, Seed & Industrial	35	95	90	85	80
Exports	277	143	166	150	110
Feed & Residual	165	233	141	125	55
Total Use	477	471	396	360	245
Ending Stocks	53	55	41	27	26
% Ending Stocks-to-Total Use	11.1%	11.7%	10.4%	7.5%	10.6%
U.S. Average Farm Price ($/bu.)	$4.08	$3.20	$3.22	$5.15	$6.30-$7.30 *Midpoint =* *$6.80*

Figure 4. Trends in U.S. Grain Sorghum Use & Ending Stocks During MY 2004/05 thru MY 2011/12
(September 12, 2011 USDA WASDE Report)