



October 2016 – Crop Market Update

Public Policy Department

Budget & Economic Analysis Team

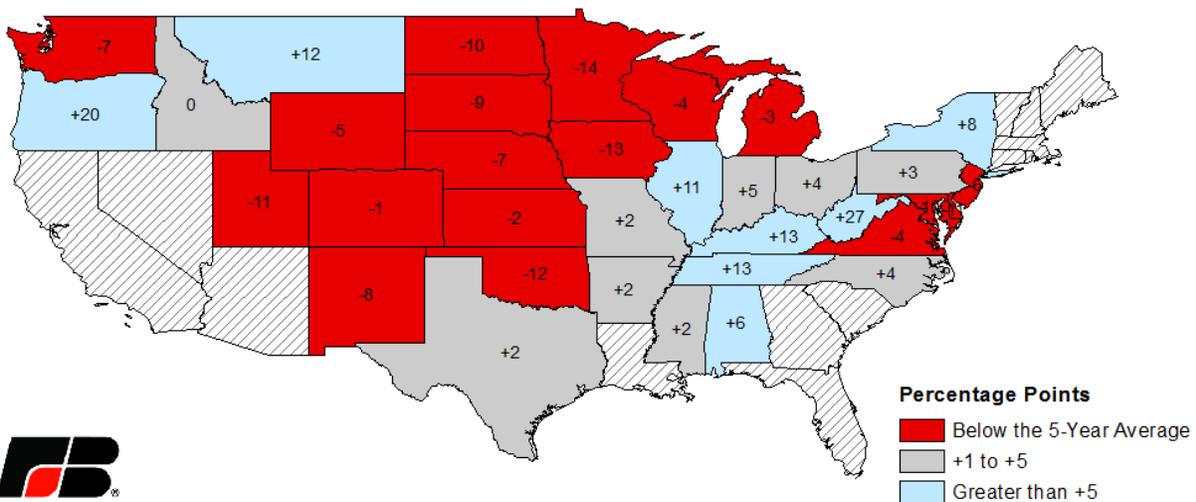
Bins Are Nearly Full as Harvest Gets Underway

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At this point in the new marketing year new crop commodity prices move primarily due to prior year ending inventories, the size of the new crop, and projections for consumption and end of new year inventory levels. On Sept. 30, 2016, USDA released the quarterly [Grain Stocks](#) report which revealed marketing year ending inventories for corn, soybeans and wheat as of Sept. 1, 2016. On Oct. 11, 2016, USDA released the [Crop Progress](#) report identifying the harvest pace for 2016/17 marketing year corn, soybeans and cotton among other commodities. Then on Oct. 12, 2016 USDA released the latest [World Agricultural Supply and Demand Estimates \(WASDE\)](#). Combined these reports provide an opportunity to update expectations on the size of old-crop inventories as well as new-crop supply, use and price projections.

This week's [Crop Progress](#) report revealed U.S. corn and soybean harvests were 35 and 44 percent complete, respectively. The pace of the corn harvest is three percentage points below both last year's and the five-year average pace. For soybeans, harvest is 12 percentage points below last year's pace and three percentage points below the five-year average. A primary reason for the slower rate of harvest is the limited days of fieldwork available. For example, rainfall across Iowa and Minnesota over the past seven days resulted in two fewer days suitable for fieldwork compared to last year. Figure 1 shows the deviation in harvest progress across the country. The National Weather Service's precipitation [forecasts](#) of additional wet weather in these areas over the next seven days may further delay the pace of harvest in these major production areas.

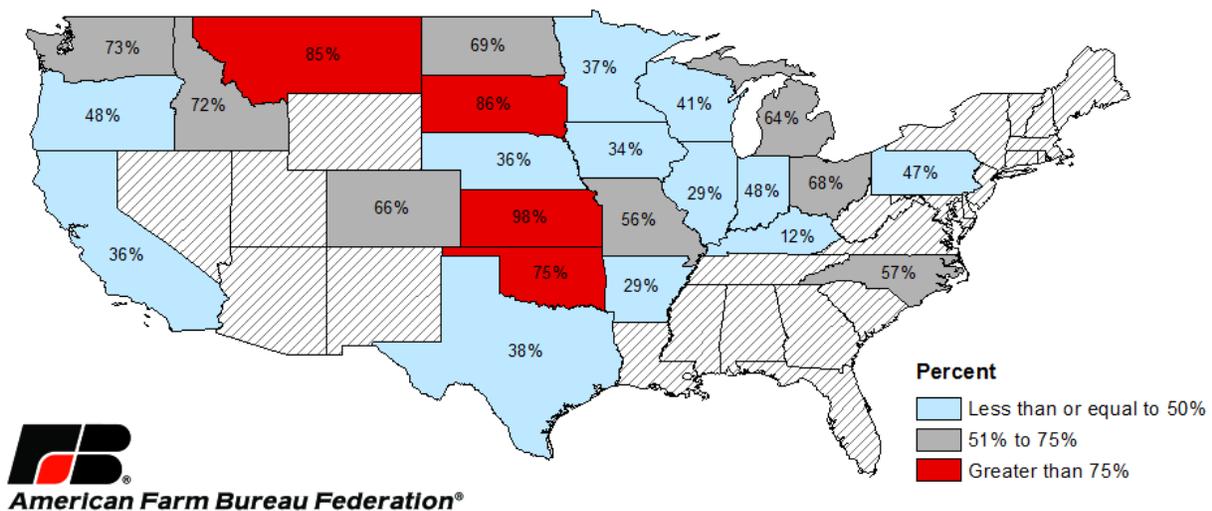
Figure 1. Corn harvest progress as of Oct. 9, 2016 relative to the five-year average
Source: USDA NASS



With harvest of corn and soybeans nearly half-way complete, markets turn to concerns of new crop inventories bumping against already high levels of old crop in bins. The quarterly [Grain Stocks](#) report revealed year-ending corn stocks of 1.734 billion bushels—the highest level since 2006. Similarly, year-ending soybean stocks were announced at 197 million bushels, the highest level since 2011. Sept. 1 U.S. all wheat stocks were announced at 2.53 billion bushels and are at the highest levels since 1987. The large wheat stocks are primarily due to large positive yield deviations across the U.S. leading to production volumes well above year ago levels. Across the western Corn Belt and Great Plains [large wheat yields](#) in 2016 contributed to wheat production exceeding 2015 levels by 248 million bushels. In Kansas, wheat production was 146 million bushels, or 45 percent, higher than 2015 levels. Moving wheat into outdoor storage to make room for new crop corn and soybeans has been a priority in many areas. These elevated stock levels dampen upside price potential on both old and new crops and limits the storage availability for new-crop corn and soybeans as 2016 harvest continues.

Figure 2. Marketing Year 2015/16 Ending Stocks of All Wheat, Corn and Soybeans as a Percentage of the Historical Maximum Since 1980

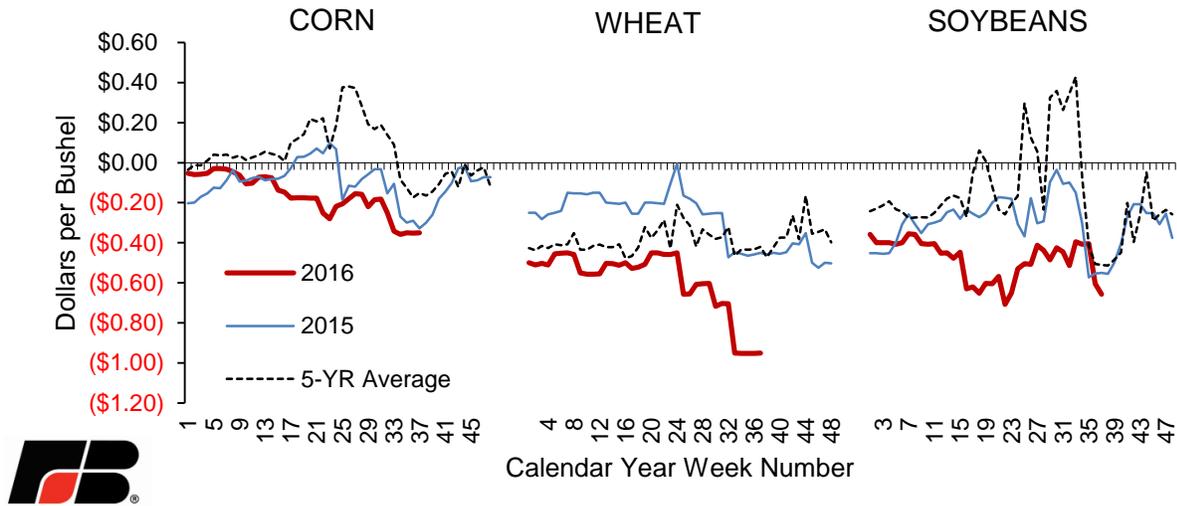
Source: USDA NASS



As evidenced in Figure 2, storage capacity constraints for corn, soybeans and wheat in some states are at their highest levels since the 1980s. The states in red are areas where old-crop storage of corn, soybeans and wheat are near record highs whereas in other areas storage availability for new-crop corn and soybeans is not as tight (blue and grey colored states). With storage at historical highs in parts of the U.S., cash prices for corn, soybeans and wheat in these areas are resulting in very substantial negative basis levels (basis = cash minus futures). Crop basis data from Kansas State University’s [AgManager.Info](#) reveals negative weekly basis levels at Topeka, Kansas for corn, soybeans and wheat. Nearby corn basis is -35 cents per bushel, below both prior-year levels and the five-year average. Nearby wheat basis has been more aggressive, moving well below prior-year levels and the five-year average at -95 cents per bushel. Current basis in wheat matches the lowest level at this point in the calendar year in twenty years. Finally, soybean futures are currently 66 cents above cash prices and result in the lowest basis level in the last decade (Figure 3).

Figure 3. Corn, Wheat and Soybean Basis at Topeka, Kansas

Source: Kansas State University's AgManager.Info



While corn and wheat cash prices are heavily discounted to the futures, record soybean exports and crushing of the 2015/16 crop has contributed to higher national average soybean prices. Higher bean prices and lower corn prices have led to very high soybean-to-corn price ratios. USDA's September 2016 [Agricultural Prices](#) report indicated that the U.S. average soybeans-to-corn price ratio was 3.1 in August, the highest level since 2014 and well above the historical average of 2.5.

In advance of USDA's Oct. 12 [WASDE](#) report, the average trade guess on new-crop soybean production was 4.289 billion bushels—led by a yield projection of 51.5 bushels per acre and an increase in harvested area by 78 thousand acres. USDA confirmed the trade expectations and increased projected soybean yields to 51.4 bushels per acre but left harvested area unchanged for a total production of 4.269 billion bushels. USDA also increased consumption projections for both crushing and exports to new record highs, but not enough to offset additional supplies as projected ending stocks were increased to 395 million bushels. If realized, projected ending stocks for the 2016/17 marketing year would be the highest since 2006. In light of these projections, as new-crop soybeans come online, the uncertainty around the crop size (domestically and globally) and use allowed USDA to keep the marketing year average price projection of \$8.30 to \$9.80 per bushel unchanged. Soybean futures declined following the report with the November contract settling at \$9.45 per bushel.

For corn, the average trade guess in advance of the Oct. 12 [WASDE](#) was for a reduction in projected corn yields to 173.5 bushels per acre. USDA followed the trade and lowered projected corn yields by one bushel to 173.4 bushels per acre. Even with the yield reduction, USDA's forecast of total corn production remains north of 15 billion bushels (a record high) as harvested areas was slightly increased to 86.8 million acres. USDA revised corn consumption higher (50 million bushels in additional exports) and ultimately lowered projected ending stocks to 2.32 billion bushels—the highest levels since the 1987/88 crop. Current projections are for corn prices to range from \$2.95 to \$3.55, and average \$3.25 per bushel in 2016/17. December corn futures settled at \$3.37 following the report with a market carry of 30 cents per bushel by the end of the marketing year. Combined, the carry in corn markets and tight trading range in soybeans are combining to push the soybean-to-corn price ratio back toward the historical average of 2.5 for the 2017/18 crop. It will be important to monitor this relationship, especially during the spring price

discovery period, as it may provide an early indicator of planted area for the 2017/18 marketing year.

The latest [WASDE](#) did little to provide support to the wheat market. USDA did lower the harvested area but record wheat yields in the U.S. are expected to lead to the largest domestic carryout since the 1980s at 1.138 billion bushels. USDA’s updated projections point to global wheat supplies at a record 248.37 million metric tons. Domestic stocks-to-use are projected at 50 percent and global stocks-to-use are projected at 34 percent for 2016/17, respectively. USDA revised the lower-end of the wheat price range up by 20 cents per bushel, resulting in the mid-point of the price range increasing by 10 cents to \$3.70 per bushel.

Farm Bill Program Payments Announced

Expectations for corn, soybean and wheat price levels remain at multi-year lows. The most recent [Agricultural Prices](#) report revealed marketing year average prices for corn, sorghum, soybeans, dry peas, canola and lentils. These prices are used to determine program payments for Agricultural Risk Coverage (ARC-CO) and Price Loss Coverage (PLC) for the 2015/16 marketing year. Prices and PLC payment rates are identified in Table 1 for select commodities. Additional data, including maps of program payments, are available online at the USDA ARC/PLC Program [landing page](#).

Table 1. Marketing year 2015/16 average prices, PLC and ARC-CO program prices for select commodities in dollars per bushel

Source: USDA

Covered Commodity	Corn	Sorghum	Soybeans	Wheat
PLC Reference Price	\$3.70	\$3.95	\$8.40	\$5.50
Marketing Year Average Price	\$3.61	\$3.31	\$8.95	\$4.89
PLC Payment Rate	\$0.09	\$0.64	\$0	\$0.61
ARC-CO Olympic Moving Average Price for 2016/17 ARC-CO Guarantee	\$4.79	\$4.77	\$11.87	\$6.70

The 2015/16 marketing year average wheat price was announced at the end of June 2016.

As a direct result of these lower prices, USDA recently announced that it would make more than \$7 billion in Agricultural Risk Coverage and Price Loss Coverage payments. For the 2014/15 marketing year, USDA made commodity program payments totaling \$5.2 billion.

With the announcement of the 2015/16 marketing year average prices PLC payment rates were announced and the ARC-CO Olympic moving average prices for the 2016/17 benchmark revenue guarantee could be calculated. The ARC-CO Olympic moving average prices for corn, soybeans and wheat are \$4.79, \$11.87 and \$6.70 per bushel, respectively. Olympic moving averages exclude the highest and lowest value in a sample when determining the average. The county-level benchmark revenue guarantee will be the product of the ARC-CO Olympic moving average prices and the Olympic moving average county-level crop yield updated using 2015/16 yield data.

With lower commodity prices projected for this new crop year, the Congressional Budget Office’s August 2016 baseline of farm program expenditures projects ARC-CO and PLC program payments at \$8.4 billion next fiscal year—in line with payments currently being made to agricultural producers. Expectations for additional price declines will continue to pressure the ARC-CO Olympic moving average prices lower (they cannot fall below PLC prices). Additionally, the large crops we’ve harvested in recent years will reduce the probability and magnitude of ARC-CO payments by fiscal year 2019. The tradeoff will be that expectations for lower commodity prices will increase the magnitude of PLC payments (Figure 4).

Figure 4. Congressional Budget Office August 2016 projections for ARC and PLC program payments, 2016 to 2026

Source: Congressional Budget Office

