Supply and Demand for Field Crops
September 2016
Supply and Demand

The primary components of market conditions that determine prices for U.S. field crops are the supply and demand situation for each crop and the value of the dollar. Supply and demand conditions are indicated by stocks-to-use (S/U) ratios which are reported monthly (USDA, WASDE 2016). Stocks are the ending quantity of a crop in the final month of the market year. Use is total distribution for the market year and includes total domestic consumption and exports. Measures of S/U represent the percentage of annual use that is available for the period between the end of the current crop market year and the time when production from the subsequent market year enters the industry supply. Crop prices attempt to ration supply with anticipated demand to achieve equilibrium stocks-to-use throughout the market year.

Crops are traded in global markets with U.S. currency as the common medium of exchange. Fluctuations in the value of the dollar relative to other currencies impacts U.S. crop prices. Increased value of the dollar leads to increased expenditures in terms of currencies for international purchasers of U.S. crops. This results in downward pressure for U.S. prices and could provide incentives for purchases from foreign competitors producing crops.

Figure 1 presents the dollar index for the previous year with a comparison to the 2006-2014 annual average (FSR 2016). Figures 2-16 present S/U measures with a comparison to the average for the 2006-2015 period (USDA, ERS 2016; USDA, FAS 2016). Market years are September-August for corn and soybeans, August-July for rice, cotton, and peanuts, and June-May for wheat. Current price forecasts are compared to historical average prices that correspond to historical S/U measures (USDA, NASS 2016).

The dollar index has been above the 2006-2014 annual average for the previous 13 months. Increasing strength of the dollar results in downward pressure for U.S. commodity prices. The dollar index decreased in August, after following an increasing trend during May-July.

Figure 1. Broad Dollar Index, Price Adjusted, Monthly August 2015 to August 2016, Average 2006-2014 = 88.0
U.S. corn S/U for 2016 is projected greater than the average for 2006-2015 which results in downward pressure for price that is below the corresponding average of $4.50/bu. The current USDA price forecast is $3.20/bu. for the crop harvested in 2016. Historically, U.S. corn price is significantly responsive to S/U.

S/U in the rest of the world for 2016 is projected greater than the average for 2006-2015 which results in downward pressure for price that is below the corresponding average of $4.50/bu. The current USDA price forecast is $3.20/bu. for the crop harvested in 2016. Large foreign supply limits export potential for relieving excessive supply in the U.S. Ending 2016 S/U is projected lower than 2015 S/U.

Monthly projections for August 2016 U.S. corn S/U decreased in the three final months, from levels earlier in the market year. The final monthly estimate for the 2015-2016 market year was slightly less than the ending S/U in the previous market year.
U.S. soybean S/U for 2016 is projected greater than the average for 2006-2015 which results in downward pressure for price that is below the 2006-2015 average price of $10.65/bu. The current USDA price forecast is $9.05/bu. for the crop harvested in 2016. Historically, U.S. soybean price is significantly responsive to S/U.

S/U in the rest of the world for 2016 is less than the 2015 S/U and less than the long-term average. ROW S/U indicates potential for increased exports to relieve excessive U.S. supply. However, the current USDA price forecast of $9.05/bu. for the crop harvested in 2016 is less than the 2006-2015 average U.S. soybean price.

Monthly projections for August 2016 U.S. soybean S/U were slightly greater than the 2006-2014 average and greater than ending S/U in the previous market year. Monthly projections decreased in each of the five final months of the market year.
U.S. long-grain rice S/U for 2016 is projected greater than the average for 2006-2015 which results in downward pressure for price that is below the corresponding average of $5.70/bu. The current USDA price forecast is $4.37/bu. for long-grain rice harvested in 2016. Projected S/U for 2016 represents an increase from 2015 ending S/U.

S/U in the rest of the world for 2016 is greater than the average for 2006-2015 which results in downward pressure for price that is below the corresponding long-grain rice average of $5.70/bu. Recent estimates of ROW S/U for 2015 and 2016 are not as tight as earlier reports. Historically, U.S. long-grain rice price is significantly responsive to values of the dollar. Thus, the current high value of the dollar is exerting additional downward pressure on long-grain rice price. The current USDA price forecast is $4.37/bu. for long-grain rice harvested in 2016.

The September projection for the 2016-2017 ending long-grain rice S/U increased from the August projection. Projections for the current market year are significantly greater than ending S/U for the previous market year.
U.S. all wheat S/U for 2016 is greater than the average for 2006-2015 which results in downward pressure for price that is below the corresponding average of $6.10/bu. The current USDA price forecast is $3.60/bu. for the crop harvested in the 2016 market year. Historically, U.S. wheat price is significantly responsive to S/U. Ending stocks in Figure 11 correspond to beginning stocks for winter wheat planted in 2016 and harvested in 2017.

S/U in the rest of the world for 2016 is greater than the average for 2006-2015 which results in downward pressure for price that is below the corresponding average of $6.10/bu. The current USDA price forecast is $3.60/bu. for the crop harvested in 2016. Ending stocks in Figure 12 correspond to beginning stocks for winter wheat planted in 2016 and harvested in 2017.

Monthly estimates for May 2017 U.S. all wheat S/U have a decreasing trend in the first four months of the market year. Ending stocks in Figure 13 correspond to beginning stocks for winter wheat planted in 2016 and harvested in 2017.

Soft red winter wheat ending S/U for the current 2016-2017 market year is projected as 44.0 which compares to a long-term average of 36.0. This exerts downward pressure on prices for Arkansas wheat potentially planted in the fall of 2016 for harvest in 2017.
Figure 14. Cotton U.S. Stocks-to-Use, 2006-2015 and Average Price = $0.65/lb., Long-term Average S/U = 30.0, 2016 S/U and Price Forecasts


Figure 15. Cotton ROW Stocks-to-Use, 2006-2015 and Average U.S. Price = $0.65/lb., Long-term Average S/U = 64.0, 2016 S/U and Price Forecasts

Cotton S/U in the rest of the world for 2016 is projected greater than the average for 2006-2015. 2016 ROW S/U is projected to decline for the second consecutive year.


U.S. peanut S/U for 2016 is projected greater than the average S/U for 2006-2015. The projection for 2016 is a decrease from the estimated level ending the previous market year for the crop harvested in 2015.
Table 1. U.S. Annual Animal Product Production

<table>
<thead>
<tr>
<th>Year</th>
<th>Beef</th>
<th>Pork</th>
<th>Broiler</th>
<th>Turkey</th>
<th>Total Red Meat &amp; Poultry</th>
<th>Egg</th>
<th>Milk</th>
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<tr>
<td></td>
<td>Million Pounds</td>
<td></td>
<td></td>
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<td>Billion Pounds</td>
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<tr>
<td>2015</td>
<td>23,698</td>
<td>24,501</td>
<td>40,048</td>
<td>5,627</td>
<td>94,630</td>
<td>7,977</td>
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<td>2016 Projected</td>
<td>24,942</td>
<td>24,892</td>
<td>40,902</td>
<td>6,060</td>
<td>97,522</td>
<td>8,349</td>
<td>212.2</td>
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<tr>
<td>2017 Projected</td>
<td>25,800</td>
<td>25,510</td>
<td>42,005</td>
<td>6,135</td>
<td>100,241</td>
<td>8,515</td>
<td>216.1</td>
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Table 2. U.S. Annual Prices for Animal Products

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<tr>
<td>2015</td>
<td>148.12</td>
<td>50.23</td>
<td>90.50</td>
<td>116.20</td>
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References


