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## Weekly Outlook: 2017 Corn Prospects

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The time of year to develop corn balance sheet projections for the upcoming crop year is upon us. As we approach the halfway point of the 2016-17 marketing year, decision making regarding planting and new crop marketing get determined. The expectations for corn in the 2017 crop year put forth in this analysis show lower production leading to decreased ending stocks in 2017-18. The magnitude of reduced ending stocks provides important implications for corn prices moving through 2017-18.

Current market consensus projects farmers to plant fewer corn acres in 2017 than the 94 million acres planted in 2016. As discussed previously, numerous factors point toward greater soybean acreage and lower corn acreage in 2017. These include lower winter wheat seedings, a lower cost of production for soybeans, and the current perceived price advantage for soybeans over corn. [Congressional Budget Office \(CBO\) projections](#) for baseline farm programs released last month set planted acreage at 91.5 million acres. Current [USDA long-term baseline projections to 2026](#) have 2017 planted acreage for corn at 90.0 million acres. A reduction of 3.5 million acres from 2016, which places planted acreage at 91.5 million acres, is used in this analysis. Planted acreage at 91.5 million acres would lead to around 83.2 million acres harvested for grain in 2017.

Yield expectations typically use trend yield analysis to generate yield projections for the next crop year. National average corn yield came in above trend for the last three growing seasons and culminated in an estimated 174.6 bushels per acre in 2016. CBO projections place 2017 corn yield at 170 bushels per acre. USDA long-term baseline projections set 2017 yield at 170.8 bushels per acre. We find a linear trend of actual U.S. corn average yields from 1960 forward to be the best fit. The trend explains 89 percent of the annual variation in corn yields from 1960-2016. Weather conditions, as one would expect, impact yields. Bad weather reduces yield by more than good weather increases yield. Since this is the case, trend estimations can understate yield expectations in an average weather year. The trend estimate for 2017 is 166.8 bushels per acre. By adjusting the trend estimation for weather influences, we generate a national corn yield expectation of 169 bushels to use in this analysis. At this yield level, the 2017 crop projection is 14.1 billion bushels. By including the current projections for ending stocks by the USDA of 2.32 billion bushels with 50 million bushels of imported corn, the 2017 corn supply comes in at 16.4 billion bushels. The 2017 corn supply estimate is approximately 509 million bushels less than the current marketing year supply estimation.

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2017-18 marketing year expectations for consumption exceed projected production, which leads to a lower level of ending stocks by the end of the marketing year. The size of the decline is important for determining price as we move through the next marketing year. Exports, ethanol production, feed and residual, and other domestic uses determine the consumption of corn. U.S. corn exports vary considerably from year to year. In the last decade, corn exports ranged from a low of 730 million bushels in the 2012-13 marketing year to 2.44 billion bushels in 2007-08. Corn exports will be influenced by trade policy, world corn production, economic growth, and exchange rates. Current 2016-17 marketing year corn export projections sit at 2.225 billion bushels, which were helped by lower corn production in South America in 2016. Current corn production projections for Brazil (3.41 billion bushels) and Argentina (1.44 billion bushels) are up 29 percent and 26 percent respectively in 2017. World production projections come in 8 percent higher for 2017. While U.S. corn exports will continue to be strong, 2017-18 projections reduce corn exports in this analysis to 1.95 billion bushels on larger foreign corn production.

Corn used for ethanol production will be impacted by EPA rulemaking related to implementing RFS mandates, gasoline consumption, and ethanol exports. An expectation of increased fuel ethanol requirements and slight increases in gasoline consumption with a positive ethanol trade balance provide support to the continued increase in corn used for ethanol. Corn used for ethanol expectations increase to 5.4 billion bushels in the 2017-18 marketing year. Other domestic uses for corn do not vary significantly from year to year. With a slight increase, other domestic use expectations provide 1.45 billion bushels of corn use.

The pace of corn consumption for feed likely will continue to show strength in the 2017-18 marketing year. Livestock production growth in many sectors provides support for corn feed use during this marketing year. Despite strong livestock production, several factors may limit corn feed use moving forward. The increase in ethanol production increases distiller's grain availability. Increased availability of feed grains across the board may suppress some corn feed use. Residual use of corn could be reduced if the 2017 crop is smaller than the 2016 level. Feed and residual use might be near 5.5 billion bushels.

Current expectations for corn consumption in the 2017-18 marketing year are 14.3 billion bushels. Ending stocks would be 2.131 billion bushels, which is 189 million bushels lower than the current 2016-17 marketing year projections. Based on the analysis of corn production and consumption expectations, season average market price comes in at the \$3.65 - \$3.75 range for the 2017-18 marketing year.

## References

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