farmdoc DAILY

Department of Agricultural and Consumer Economics, University of Illinois Urbana-Champaign

Weekly Outlook: Corn Market Figures in Lower Yields

Todd Hubbs

Department of Agricultural and Consumer Economics
University of Illinois

July 17, 2017

***farmdoc daily* (7):128**

Recommended citation format: Hubbs, T. "Weekly Outlook: Corn Market Figures in Lower Yields." *farmdoc daily* (7):128, Department of Agricultural and Consumer Economics, University of Illinois at Urbana-Champaign, July 17, 2017.

Permalink: http://farmdocdaily.illinois.edu/2017/07/corn-market-figures-in-lower-yields.html

Recent volatility in corn prices indicates concern about the 2017 U.S. corn crop. Temperature and precipitation during July are critical to developing corn yields. With the good and excellent ratings from the USDA's July 10 crop condition report showing a 3 percent decline and weather forecasts over the next two weeks showing extreme heat in many areas of the western Corn Belt, the potential for lower corn yields is acute.

Weather conditions in July have been far from perfect in many of the main production regions. While portions of the eastern Corn Belt received some precipitation recently, areas of dryness continue in many areas. The National Weather Service 8-14 day outlook released on July 16 indicates probabilities of above normal temperatures and below normal precipitation over much of the Corn Belt through July 30. An indication of the effect on corn yields will be revealed in the weekly crop condition ratings. Good and excellent ratings for the week ended July 16 currently hold an expectation of a one to two percent decline. Deterioration in crop condition ratings may continue for the week ending July 23 because of high temperatures and the lack of widespread precipitation.

The importance of the 2017 U.S. corn yield potential for corn prices is underscored by the WASDE data released on July 12. Ending stocks for the 2016-17 marketing year increased by 75 million bushels to 2,370 million bushels due to lower feed and residual levels. The increase in carryout for the 2016 -17 marketing year combined with the larger than expected corn acreage revealed in the June Acreage report mitigated some of the corn price increases due to weather issues. The most recent USDA projections for the 2017-18 marketing year set consumption at 14.35 billion bushels, 220 million bushels below expected consumption during the current marketing year. Stocks at the end of the 2017-18 marketing year are projected at 2,325 million bushels or 16.2 percent of projected use.

Based on the forecast of 83.5 million harvested acres, the current USDA yield projection of 170.7 bushels per acre sets production at 14.255 billion bushels. Under this scenario, the USDA sees the 2017-18 average farm price between $2.90 and $3.70. While the USDA maintained the 2017 yield projection, there is an expectation of lower yields to be reflected in the USDA's August 10 Crop Production report.

Based on a model of the relationship between average farm price and the end of year stocks to use ratio, the projected ending stocks to use ratio for the 2017-18 marketing year projects the average farm price near $3.58 per bushel. While the relationship between ending stocks and average farm price is not perfect, the model allows for the estimation of where the current market expectations of corn yields may fall for the 2017 corn crop.

December 2017 corn futures closed at $3.89 on July 14. Calculation of the marketing year average farm price of corn is performed by using the historical five-year average of monthly farmer sales ranging from September to August, the three-year average of corn basis from central Illinois, and the closing prices for corn futures on July 14. The futures market reflected an average farm price for the 2017-18 marketing year near $3.78, which is above the current USDA range. Unless the market believes U.S. corn consumption exceeds 14.35 billion bushels during the year, the average yield reflected in the market is below the current 170.7 bushels per acre. Based on the model of the relationship between ending stocks and average farm price, calculations indicate the market is currently trading on a 2017 average yield in a range of 163 to 166 bushels per acre. While lower average corn yield in this range would provide support for prices, the prospect of demand rationing would surface if yields fell to around 160 bushels per acre.

Yield potential for this year's crop and corn price movements will continue to follow the information contained in reports on weather conditions, weather forecasts, and crop condition ratings. A large amount of uncertainty surrounds speculation about the size of the 2017 corn crop. Corn prices will continue to trade in a wide range as we move through the crucial periods of the corn-growing season in the U.S. The high level of uncertainty makes anticipating the price direction difficult, but it seems there is more production risk than currently reflected by the corn market. The USDA's August production forecast will be highly anticipated, as it will establish a benchmark for forming production expectations.