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## How Many Acres of Corn Are Needed in 2015?

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One of the functions of crop markets is to direct planting decisions of U.S. producers. That process begins with fall seeded crops, primarily winter wheat, and continues through the following spring. The market's assessment of the amount of acreage needed of various crops in any production cycle is complicated and continually changes.

Providing direction for planted acreage requires anticipating the level of old crop inventories available for the upcoming marketing year, the magnitude of consumption during the upcoming marketing year, the likely average yield, and the desired level of year-ending stocks. For corn, these factors all currently suggest that fewer acres of corn will likely be needed in the U.S. in 2015. In the October 10 WASDE report, the USDA projected that stocks of old crop corn at the start of the 2015-16 marketing year will be at a 10-year high of 2.081 billion bushels even with record large consumption of 13.655 billion bushels. Based on the pattern of USDA yield forecasts in previous years when the U.S. average yield was well above trend value, as is the case this year, many expect that the final yield estimate this year will exceed the October forecast of 174.2 bushels. If the final 2014 production estimate is larger than the current forecast and consumption is near the current forecast, year-ending stocks may be near 2.2 billion bushels. The large 2014 crop and the build-up in stocks are expected to result in a 2014-15 marketing year average farm price in the low- to mid- \$3.00 level, well below the cost of production for most producers.

One way to approach the question of how many corn acres are needed in 2015 is to determine the combination of production, consumption, and year-ending stocks that would result in a 2015-16 marketing year average farm price closer to the cost of production, estimated to be in the low \$4.00 range (assuming trend yields) in much of the Corn Belt. The marketing year average farm price was \$4.20 in 2007-08 with an ending stocks-to-use ratio of 12.8 percent, \$4.06 in 2008-09 with an ending stocks-to-use ratio of 13.9 percent, and \$4.46 in 2013-14 with an ending stocks-to-use ratio of 9.1 percent. It may be that a marketing year average farm price in the low \$4.00 range next year would require ending stocks near 12 percent of consumption. If consumption of U.S. corn during the 2015-16 marketing year remains near the record level projected for this year, year-ending stocks near 1.64 billion bushels would represent

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12 percent of consumption. With beginning stocks near 2.2 billion bushels, imports of 20 million bushels, and consumption of 13.655 billion bushels, a 2015 U.S. corn crop near 13.075 billion bushels would result in 2015-16 marketing year ending stocks near 1.64 billion bushels.

With a trend yield near 162.5 bushels in 2015, 80.46 million acres would need to be harvested to produce 13.075 billion bushels of corn. That magnitude of harvested acreage for grain would require about 88.26 million acres of corn to be planted for all purposes. That is 2.625 million fewer acres than the USDA's most recent estimate of planted acreage in 2014, 8.895 million less than the record acreage of 2012, and equal to acreage planted in 2010.

The market's assessment of needed corn acreage in 2015 may well reflect different conditions than assumed here and will surely vary between now and planting time. Changing assessments will reflect the pace of consumption of U.S. corn, the size of the final 2014 production estimate to be released in January, and the development of the South American crop. Current prices for the 2015 corn crop suggest that the market is encouraging some reduction in corn acreage in favor of soybeans and wheat. The ratio of cash soybean and corn prices for 2015 harvest delivery in central Illinois, for example, is currently near 2.6 to 1.0. That ratio has been declining, but still favors soybeans over corn for many producers. Similarly, the ratio of July 2015 wheat futures to December 2015 corn futures and November 2015 soybean futures favors wheat over corn and soybeans.

The bigger dilemma is that while a reduction in U.S. corn acreage is likely needed in 2015, an increase in wheat and soybean acreage may not be needed. U.S. wheat stocks are expected to increase during the current marketing year and a trend yield in 2015 would result in a larger crop than produced this year with no increase in acreage. A trend soybean yield in 2015 would result in a smaller crop than produced this year, but production would still exceed the projection of use during the current marketing year. It may be that low prices will result in some decline in total crop acres in 2015.

At this juncture, it appears that corn acreage may decline sufficiently in 2015 to generate a 2015-16 marketing year average price in the low \$4.00 range. However, price ratios will have to continue to motivate that acreage decline into planting time. The first indication of producer acreage decisions will be revealed in the USDA's *Winter Wheat Seedings* report to be released in early January 2015.

*Also available at:*

<http://farmdoc.illinois.edu/marketing/weekly/html/101314.html>