How Many Corn Acres Are Needed In 2010?

grain outlook

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The sharp decline in winter wheat seedings in 2009 has analysts guessing how that acreage will be divided among spring planted crops in 2010. There are really two questions related to acreage in 2010: 1) how many acres will get planted to all crops? and 2) how will that acreage be divided?

The 6.2 million acre reduction in winter wheat seedings and the 2.4 million acres of Conservation Reserve Program (CRP) contracts that matured in 2009 and were not extended may or may not all be planted in the spring of 2010. The acreage of principal crops planted in the U.S. varied by 13.1 million acres over the past 10 years. Planted acreage plus CRP acreage varied by 9.6 million acres. The recent peak in planted acreage was in 2008, following four consecutive years of declines from 2003 through 2006. High prices and generally good returns resulted in a 9.4 million acre increase in total plantings from 2006 to 2008. Planted acreage declined by 5.7 million acres in 2009 even as CRP acreage declined by 1.1 million. Total planted acreage may or may not increase in 2010, depending on prospects for crop returns in the spring. It is difficult to anticipate the magnitude of total planted acreage.

Planting decisions for individual crops in the spring of 2010 will be influenced by a number of factors. These include relative crop prices, prospects for net returns for completing crops, and spring weather conditions. There is some concern that the late corn harvest in 2009 has resulted in the need for more than the usual amount of spring tillage and fertilizer application. Planting corn after corn may be particularly challenging in some areas due to the lack of fall tillage and rough field conditions due to harvesting under wet soil conditions. An early, open spring would be helpful for catching up with field work.

Rather than trying to anticipate farmer planting decisions with so many factors unknown, it might be useful to ask how many acres of each crop are needed in 2010. The focus here is on corn acreage. The number of corn acres needed for harvest in 2010 depends on four basic factors. These include the magnitude of stocks at the beginning of the 2010-11 marketing year, the desired level of stocks at the end of the 2010-11 marketing year, the 2010 U.S. average yield, and the size of the market for U.S. corn during the 2010-2011 marketing year.

The USDA currently projects that stocks of U.S. corn at the end of the current marketing year will total 1.764 billion bushels. A comfortable year ending inventory, reflecting neither shortage nor surplus, is probably around 1.5 billion bushels. Expected inventories at the beginning of the 2010-11 marketing year, then, would allow the 2010 crop to be 264 million bushels smaller than consumption during the subsequent 12 months. Likely consumption is also difficult to forecast. Domestic use of corn for ethanol consumption will increase a minimum of 200 to 300 million bushels due to the mandates for renewable fuels production. Domestic feed use may decline modestly due to the increased feeding of distillers' grains and stable livestock numbers. Exports of U.S. corn may increase modestly if world wheat production fails to remain at the extremely high level of the past two years and China does not have exportable corn supplies. Consumption of 13.25 billion bushels of U.S. corn seems reasonable for the 2010-11 marketing year, suggesting that production needs to be near 13 billion bushels.

The number of acres needed to produce 13 billion bushels of corn in 2010 obviously depends on the U.S. average yield. The best guess at this time is for a trend yield in 2010. The calculation of trend yield depends on the base period for calculating trend and whether the calculations are based on the trend of actual yields (unconditional) or the trend of yields adjusted for variations in weather conditions. We use the period 1960 to 2009 and weather-adjusted yields to calculate trend. That value for 2010 is 158 bushels, well below the record yield of 165.2 bushels in 2009.

A yield of 158 bushels implies the need to harvest 82.3 million acres of corn for grain in 2010, requiring planting of about 89.5 million acres. That is about three million acres more than were planted in 2009. The USDA will release the results of its survey of farmer planting intentions on March 31. Δ

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