QUESTIONS ABOUT SIZE OF CORN AND SOYBEAN CROPS

This is the time of year when corn and soybean markets focus on the potential size of the U.S. crops. As usual, there are uncertainties about the size of this year's crops even after the first USDA forecast.

Uncertainties center on both acreage and potential yield. The USDA’s current estimates for planted acreage and acreage harvested for grain are based on the large quarterly agricultural survey conducted in June. Typically, monthly crop production surveys do not revisit the acreage issue. The question of planted and harvested acreage is posed in the December quarterly agricultural survey and reported in the Annual Crop Production report released in January. January acreage estimates typically differ from June forecasts by less than 1 percent, but have been as large as 2 percent for soybeans and 2.5 percent for corn.

Most questions this year center around the potential for harvested acreage due to early season flooding and ponding and to the late maturity of some crops in northern growing areas. The USDA’s weekly report of crop progress indicated maturity of the corn crop is well behind the normal pace in Wisconsin, Minnesota, and the Dakotas. The soybean crop appears later than usual in Michigan, Minnesota, and Wisconsin. These “late” states account for 21 percent of the estimated acreage of corn to be harvested for grain and 15 percent of the expected harvested acreage of soybeans. Some of the acreage could go unharvested for grain if maturity is insufficient before the first killing frost.

The lateness of the crops in some areas, along with cool weather in the first half of August some dry growing areas, and some early frost, also raise concerns about the potential yield of corn and soybeans. The USDA’s weekly report of crop conditions showed a reduction in the percentage of the crops rated good or excellent for the week ended August 15. However, crop ratings are still running well ahead of last year’s ratings and above the average ratings for this time of year. Yield potential is still quite high.

The closing price of December 2004 corn futures on August 20 was $2.4175, $.1275 above the closing price on August 12, following the USDA’s forecast of a 10.923 billion bushel crop. So what size crop is the market now trading? Current futures prices (December 2004 through September 2005) reflect an U.S. average farm price of $2.35 for that portion of the 2004 U.S.
crop that has not yet been priced. Assuming that some of the crop has been priced at levels well above current prices, the average price for the year reflected by current futures prices is near $2.40 per bushel. Further assuming that the market believes that consumption of U.S. corn during the 2004-05 marketing year will be near the USDA’s forecast of 10.72 billion bushels, a price of $2.40 reflects year ending stocks of 1.0 billion bushels and a crop of 10.794 billion bushels, 129 million below the August forecast. Such a crop implies an U.S. average yield of 147.1 bushels per acre, based on the current forecast of harvested acreage. That yield is 1.8 bushels below the USDA’s August forecast and about equal to the yield implied by current crop condition ratings.

November 2004 soybean futures settled at $5.85 on August 20, equal to the settlement price on August 12, but jumped sharply higher in early trading on August 23. Current futures prices, along with the assumption that some of the crop has already been sold at higher prices, reflect a 2004-05 marketing year average farm price of about $6.15 per bushel. It is more difficult to determine the soybean crop size implied by current futures prices because the recent relationship between the ratio of year ending stocks to use and the average farm price has not been as consistent as the relationship for corn. Based on the best fit of that relationship for the period 1998-99 through 2003-04, the price of $6.15 seems to imply a crop of about 2.83 billion bushels and an average yield near 38.5 bushels per acre, based on the current forecast of harvested acreage. That yield is 0.6 bushel below the USDA’s August forecast and well below the average yield implied by current crop condition ratings. The implied crop size is nearly 50 million bushels below the USDA’s August forecast.

For now, the market will continue to focus on U.S. crop conditions. Concerns about crop size may offer producers an unexpected opportunity for additional sales as harvest approaches. Longer term, corn prices appear to have additional upside potential because of strong demand, lack of competitors, and the need for the U.S. to produce another large crop in 2005. Soybean price prospects beyond harvest are more uncertain due to the uncertainty of South American crop production and Chinese demand. For both crops, prices are now high enough that options can be considered as a way to manage downside price risk.

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