Prior to last week, corn prices had shown only modest response to concerns about the 2005 U.S. crop. Increased acreage and adequate old crop supplies tended to keep prices in check. Last week, however, prices moved up sharply in response to forecasts of increasing stress on the western corn belt crop.

While portions of the eastern corn belt received significant precipitation from hurricane Dennis, large areas of excessive dryness persist. Above normal temperatures are expected to persist through the end of the month, with the National Weather Service also forecasting below normal levels of precipitation for most growing areas. It is not clear how well the crop will recover in areas that received measurable precipitation and forecast weather would continue to stress the crop during pollination and kernel development. The National Weather Service forecast for August shows odds of normal temperature in most of the production region, with below normal temperature forecast for the upper plains and upper midwest states. August precipitation is expected to be above normal in the western corn belt and at normal levels in the east. Forecast conditions would be favorable for the development of the corn crop, but precipitation forecasts have not been especially reliable this year. Even if the forecast is correct, the market is focused on potential crop damage over the next two weeks.

Based on a trend yield of 145 bushels, the 2005 U.S. corn crop would be near 10.8 billion bushels. If consumption remains large, near 10.7 billion bushels, U.S. corn inventories would grow by about 100 million bushels by the end of the 2005-06 marketing year. Under that scenario, the USDA sees a 2005-06 average farm price between $1.70 and $2.10. Models based on the relationship between average price and end of the year stocks-to-use ratio project a 2005-06 marketing year average price between $1.85 and $2.25, if the crop is near 10.8 billion and use is near 10.7 billion. The fit between the average price and the level of year ending stocks is not perfect. In addition, the USDA obviously considers that relationship when making price projections. The $.15 lower price projection by the USDA reflects consideration of other factors and the judgement of the analysts.

December 2005 corn futures closed at $2.68 on July 15, and traded as high as $2.73 in the overnight session of July 17. At the settlement prices of July 15, the futures market reflected a
2005-06 marketing year average farm price near $2.55. That calculation is made using a three-year average basis estimate and a forecast of the monthly distribution of sales (September 2005 through August 2006) based on the 5-year average distribution. Unless the market believes that the use of U.S. corn will exceed 10.7 billion bushels during the year ahead, an average yield well below trend value is being reflected in the futures market. Based on the uncertain relationship between year-ending stocks and price, it is calculated that the market is currently trading a 2005 average yield between 127 and 130 bushels per acre.

Weather conditions and USDA’s weekly crop condition ratings will be watched closely to judge the yield potential of this year’s crop. For the week ended July 10, only 58 percent of the crop was rated in good or excellent condition. That is below the average rating for that time of year and observers reported expectations of further declines in the condition ratings for the week ended July 17. Yield expectations decline by 0.6 to 0.7 bushels per acre for each percentage point decline in the percent of the crop rated good or excellent. The USDA will release the first forecast of 2005 yield and production based on farmer surveys and field observations on August 12. That forecast is based on conditions around the first of August and assumes normal weather conditions for the remainder of the growing season. The market will “second guess” that forecast based on actual weather in the first half of August and weather forecast for the remainder of the growing season. Over the past 35 years, the average difference between the August forecast of U.S. corn production and the final estimate released in January after harvest was 5.2 percent. That difference, however, has ranged from less than 1 percent to nearly 25 percent.

Corn prices are expected to continue to be quite volatile due to uncertain production prospects. Stressful weather and declining crop condition ratings would likely continue to push prices higher even though current prices already reflect significant yield loss. The contract high for December 2005 futures is $2.885. Prices above that level are not expected unless the 2005 crop is small enough to require a reduction in use. A yield less than 127 bushels per acre would be required to force a reduction in consumption from the current record level. It still appears that prices are likely to reach the highest level prior to harvest.

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