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CORN AND SOYBEAN MARKETS REFLECT CROP CONCERNS

The most important factor in the corn and soybean markets for the next 6 to 8 weeks is the potential size of the 2006 U.S. crops. Current conditions raise concerns about potential yield.

With declining crop condition ratings, large areas of moisture deficits, and a period of high temperatures, corn and soybean prices appear to be building in the probability of average yields falling below trend value. It is a useful exercise to try to determine the average yield that is being reflected by the market at any given time. With considerable uncertainty on the demand side and inexact relationships between supply, consumption, and price this exercise does not produce a precise answer, but can provide some guidance for producers in making pricing decisions.

The USDA calculates the 2006 trend yield for corn at 149 bushels. A yield at that level would produce a crop of about 10.74 billion bushels. Consumption of U.S. corn is expected to grow from 11.175 billion bushels this year to 11.735 billion next year, leaving September 1, 2007 inventories at 1.077 billion bushels, or 9.2 percent of expected consumption. Based on the relationship between the year ending stocks-to-use ratio and marketing year average farm price since 1998-99, that scenario would be expected to produce a 2006-07 marketing year average price near $2.45. The USDA projects the average in a range of $2.25 to $2.65.

At the close of trade on July 14, corn futures prices for the 2006-07 marketing year reflected a price well above $2.45. December 2006 futures settled at $2.7675, with deferred contracts at progressively higher prices. September 2007 futures settled at $3.08. Assuming that the historic relationship between futures prices and the average monthly cash price received by farmers holds for the year ahead, and that producer sales are distributed in a typical fashion, the market says the average farm price will be near $2.75 during the 2006-07 marketing year. An average price of $2.75 implies a year-ending stocks-to-use ratio of 7.2 percent (845 million bushels) which implies a crop of 10.508 billion bushels (assuming use of 11.735 billion bushels). A crop of that size implies a yield of 145.9 bushels per acre, 3.1 bushels below trend.

Based on the historic relationship (1986 through 2005) between the U.S. average yield and the percent of the crop rated good or excellent at the end of the growing season, a yield of

145.9 bushels would require that the percent of the crop rated good or excellent drop from 63 percent on July 9 to 57 percent by the end of the season. In the past 7 years, however, the U.S. average corn yield has been higher than suggested by crop ratings. A year-end rating of 57 percent good or excellent last year, for example, resulted in an average yield of 147.9 bushels. Allowing for a continued increase in trend yields, a crop rating of 53 percent good or excellent at the end of the current season might translate into an average yield of 145.9 bushels.

For soybeans, the USDA calculates the 2006 trend yield at 40.7 bushels. A yield at that level would produce a crop near 3.01 billion bushels. The USDA projects that consumption of U.S. soybeans will increase from 2.802 billion bushels this year to 2.998 billion bushels in the 2006-07 marketing year, leaving September 1, 2007 inventories at 560 million bushels, or 18.7 percent of projected use. The historic relationship between the year-ending stocks-to-use ratio and the marketing year average farm price suggests that this scenario would result in a 2006-07 average farm price of $5.45. The USDA projects the average price in a range of $5.00 to $6.00. For the current year, the average price will be about $.25 higher than projected by the stocks-to-use ratio. If that “premium” continues next year, an average price near $5.70 might be expected with a trend yield.

At the close of trade on July 14, soybean futures prices for the 2006-07 marketing year reflected a 2006-07 marketing year average farm price well above $5.65. November 2006 futures settled at $6.25 and August 2007 futures settled at $6.60. That price structure translates into an average marketing year farm price near $6.20. That price implies a year-ending stocks-to-use ratio of 11.33 percent (340 million bushels) and an average yield of 37.7 bushels, 3 bushels below trend value. Again based on the historic relationship between crop condition ratings at the end of the season and the U.S. average yield, a yield of 37.7 bushels would require that the percent of the crop rated good or excellent decline from 58 percent on July 9 to 36 percent by the end of the growing season.

The above analysis assumes that the USDA has correctly forecast corn and soybean consumption and that historic relationships between stocks and price and crop conditions and yield prevail during the year ahead. Based on that analysis, the make is apparently anticipating further significant reductions in crop condition ratings.

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