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WHAT ARE SOYBEANS WORTH?

The last two USDA reports have provided friendly supply data for soybean prices. With much of the uncertainty about U.S. crop size now eliminated, prices will respond to information on the rate of consumption and to the development of the South American crop.

November soybean futures traded under $5.60 in late September, but rebounded on the basis of the USDA=s smaller than expected estimate of September 1 soybean stocks. The contract traded under $5.60 again in early October, but rebounded nearly $.50 following the USDA=s smaller than expected October production forecast. The U.S. average yield forecast of 41.6 bushels per acre was very close to market expectations, but the production forecast of 2.967 billion bushels was about 40 million bushels less than expected due to a reduction in the estimate of planted and harvested acreage.

The USDA=s World Agricultural Outlook Board projects 2005-06 marketing year consumption of U.S. soybeans at 2.966 billion bushels, resulting in year ending stocks of 260 million bushels. Assuming all current production and consumption forecasts are correct, what should we expect the 2005-06 marketing year average farm price of soybeans to be? Soybean prices are determined by the value of soybean oil and soybean meal. The USDA forecasts the marketing year average price of soybean oil in a range of $.22 to .25 per pound and soybean meal is expected to average between $155 and 185 per ton. The result is an expected marketing year average price of soybeans between $5.00 and $5.80 per bushel.

As the marketing year unfolds, the forecasts of consumption and year ending stocks will likely change. Many analysts look to the ratio of year-ending stocks and annual consumption of soybeans (stocks-to-use ratio) to gauge the likely value of soybeans. This is a Ashort cut@ method of summarizing the fundamental supply and demand conditions of the market. Historically, there was in fact a strong relationship between the ending stocks-to-use ratio and the marketing year average farm price. During the period 1989-90 through 1997-98, the stocks-to-use ratio explained nearly 90 percent of the annual variation in average farm price. That relationship shifted and became much more variable during the period 1998-99 through 2004-05. In general, for a given stocks-to-use ratio, the average farm price was lower in the latter period than in the earlier period, but the ratio only explained about 55 percent of the annual variation in average farm price. For the past two seasons, the annual average farm price has been almost exactly half way between the price forecast by the model based on the period 1989-90 through 1997-98 and the price forecast by

the model based on the period 1998-99 through 2004-05. A similar result this year would result in an average farm price of about $5.70 per bushel, based on current production and consumption forecasts.

At any given time, the futures market reflects the markets expectation of the average price for the remainder of the season. The futures prices can be translated into an average farm price by a two-step procedure. First, for each month in the marketing year, the relevant futures price is translated into an expected U.S. average farm price by adjusting for the expected difference between the futures price and average cash price received by producers. The USDA=s Economic Research Service provides a history of that difference and the average of the past 5 years is used here as the expected difference for this year. Second, the estimate of the monthly farm price received is weighted by the expected percentage of the crop marketed each month. Again, the average of the past five years is used here as the expected percentage. Based on futures settlement prices on October 14 and the estimated average cash price received in September 2005, this process results in a calculation of an average U.S. farm price of $5.83 for the current marketing year.

Current average price forecasts generated by the three sources are relatively close, although the futures market and the stocks-to-use model projects an average near the upper end of the USDA=s forecast range. As the marketing year progresses, the judgement of whether current prices are too high or too low will be based on the rate of U.S. and world consumption relative to the supply of soybeans. A slow rate would suggest that prices need to move lower and vice versa. That relationship will be relatively easy to monitor for the U.S., particularly following the November production forecast. However, the prospective world supply of soybeans will remain uncertain until well into the South American growing season. That prospective crop size will become the dominant price factor over the next several weeks.

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