

## Soybean stocks-to-use ratio declines, but soybean prices decline anyway

The recent “weather markets” notwithstanding, season average soybean prices received by farmers have been on a downward trajectory since peaking in 1996. It will take several more crop reports before we will know if the 2002 soybean crop breaks out of that pattern. The 1996 Farm Bill was passed with the expectation that crop agriculture would be better off without the government programs of earlier farm bills. Certainly before the '96 bill was passed no one expected prices to fall as low as they have for as long as they have. What happened?

To help answer that question, we took a look at the relationship between the season average price of soybeans and the year ending stocks-to-use ratio under the 1990 Farm Bill. For the years 1991 through 1995, we found that there was a strong relationship between the two and changes in the stocks-to-use ratio could be used to explain 95 percent of the variation in the season average soybean price. But what about after Freedom to Farm? Did the same relationship hold then?

To begin our look at that question, we used the formula we derived using 1991 to 1995 information to predict prices beginning in 1996. The results were very interesting. The season average price received by farmers for the 1996 crop was 3¢ above the equation's prediction. In 1997, the actual price was 39¢ below the predicted value. By the 2001 crop year, the actual price of \$4.25 was \$2.31 BELOW the predicted price of \$6.56 using the estimated relationship between prices and ending stocks-to-use ratios from 1991 to 1995 and plugging in the actual 2001 stocks-to-use ratio. The results suggest that in 1997 and succeeding years there is a progressive overestimation of the soybean price using previously observed relationships.

We then tested the 1991-2001 eleven year period to see if the price had declined progressively by a regular amount in each succeeding year following 1996 as suggested in our analysis. The results were even more astounding. They showed that in the years beginning in 1997, the curve shifted downward by 48.6¢ per year so

that for the 2001 crop year ending stocks-to-use ratio, the price of a bushel of soybeans was \$2.32 less than it would have been in the 1991-1996 period. By incorporating a progressive annual shift beginning in 1997, over 97 percent of the variation in prices was explained by using the estimated equation based on the full 1991 to 2001 period.

Looking at these numbers it is evident that, concurrent to the changes in the commodity provisions of the 1996 Farm Bill and ever larger levels of South American production, there has been a significant change in the price/stocks-to-use relationship for soybeans. During the last five years, in the absence of a weather-shortened crop for soybeans and in the presence of Loan Deficiency Payments, and more recently, emergency payments, the price of soybeans has accelerated downward at an increasing rate. Based on this, one could reasonably suggest that the same thing might happen on the upside. With such a low stocks-to-use ratio, we could be on a knife's edge. If, as a result of bad weather in the latter part of the 2002 soybean growing season, the projected soybean stocks-to-use ratio were to drop to the four to five percent range, one might see an equally dramatic upswing in prices.

In the absence of the output stabilizing mechanisms of earlier legislation, we have already seen lower lows than we have seen in recent history. Similarly, under extreme weather conditions, we are likely to see higher highs as well. And, when the highs come (\$8.00-\$10.00/bu. season average) we indeed will see additional world-wide acreage come into production. This additional production will quickly swamp utilization and the prices will likely drop to even lower lows.

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