Weekly Outlook: Economics of Corn and Soybean Storage

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http://farmdoc.illinois.edu/podcasts/weeklyoutlook/Weekly_Outlook_090611.mp3
With smaller grain and oilseed supplies than those of a year ago and increased storage capacity, there should be fewer crop storage issues than in recent years. The decision by producers to store corn and soybeans, however, should be based on expected returns rather than on capacity to store.

Total supplies (production plus beginning stocks) of the summer and fall harvested crops of wheat, feed grains, and soybeans is currently estimated or forecast by the USDA to be 937 million bushels, (4.3 percent) smaller than supplies of a year ago. The USDA estimates on-farm and off-farm grain storage capacity as of December 1 each year. Total storage capacity on December 1, 2010 was estimated at 22.255 billion bushels, 505 million larger than capacity on December 2009. While storage capacity is not completely fungible over space or by type of crop, there should be ample capacity to store 2011 crops.

The storage decision of individual producers is based on available storage capacity and on the expected returns from storage. Returns to storage can be captured in two ways. One way is to sell the crop for later delivery at a price that exceeds the spot case price by more than the cost of owning and storing the crop. This can be accomplished through a forward cash contract or by selling deferred futures contracts. Using a forward cash contract eliminates all uncertainty about the return to storage. Selling futures to price a stored crop introduces uncertainty about future basis levels and the actual returns to storage. The second way to capture a return to storage is to store the crop unpriced in anticipation of higher cash prices.

Forward contracting or hedging a stored crop would be done only if a positive return can be captured. Forward pricing eliminates downside price risk, but also eliminates a return from higher price levels. Storing a crop unpriced allows the producer to capture higher prices, but provides no protection from lower prices.

For corn and soybeans, the current price structure appears to offer a very small return to forward pricing a stored crop. Consider the following examples for east central Illinois. A typical cash bid for harvest delivery of corn is currently about $.12 under December 2011 futures, or $.35 under July 2012 futures. The bid for March 2012 delivery is about $.24 under July futures. The $.11 premium for March delivery will not nearly cover the cost of owning and storing corn until March. If a stronger basis were anticipated by March, a storage hedge might be considered. If, for example, the cash price in March was expected to be $.10 under July futures, then a $.25 per bushel return to storage could be captured by selling July

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futures. The interest cost of holding corn from harvest to March would likely exceed $.12 per bushel, leaving only $.13 to cover storage costs. A larger return would occur if the basis were stronger than expected and vice versa.

For soybeans, a typical harvest delivery bid in east central Illinois is currently about $.28 under November 2011 futures, or about $.45 under July 2012 futures. The bid for March 2012 delivery is about $.30 under July futures. Again, the $.15 premium for March delivery would not pay the cost of owning and storing the crop until March. If a stronger basis, say $.10 under July futures, were expected by March, a storage return of $.35 would be expected from selling July futures. The interest cost of owning soybeans until March 2012 would be about $.23 bushels, leaving only $.12 to cover storage costs. A larger or smaller return could occur depending on the magnitude of the basis in March.

Storing corn and soybeans unpriced implies the expectation of prices increasing by more than the cost of owning and storing these crops. Higher prices may only be forthcoming if the concerns about the U.S. and European economies can be overcome. In the short run, that might require much smaller production forecasts by the USDA on September 12 and/or October 12. However, the market is already anticipating some reduction from the August forecasts so actual reductions would have to be surprisingly large. In the longer term, higher prices might occur if demand is stronger than currently forecast, requiring further rationing of consumption. Surprising demand strength might have to come in the export markets if the domestic economy remains weak. Southern hemisphere crop problems or larger than expected corn exports to China might be required to provide the demand boost. Time will be required for those developments to unfold.

Corn and soybean prices are at high levels and are facing some strong head winds. High prices and generally strong basis levels reduce the potential returns to storage.