Higher and More Stable Returns from Cottonseed

Wesley Regmund, John R.C. Robinson & David P. Anderson

Whole cottonseed is an important factor in the overall economics of cotton production, with the returns from seed representing a little under 20% of the estimated gross returns from total production. The value of whole cottonseed is traditionally applied to offset ginning costs, which in some years has implied a rebate to growers. Historical observations of Texas whole cottonseed price implies that most of the time the price will be within plus-or-minus $65 per ton around the average price. This level of variation is significant enough to expose growers to occasional ginning cost increases. It might also represent a significant risk to the financial position of gins, co-ops, livestock feeders, and other users. This research examines cottonseed distribution and cross hedging strategies.

The available market information on whole cottonseed is limited; however, Cotton Incorporated describes one fourth of U.S. whole cottonseed as being sold directly from gins as livestock feed. Another quarter is distributed as livestock feed products after being processed by a cottonseed oil mill. Given the importance of the Texas livestock industry, it may be that the share of Texas whole cottonseed being fed to livestock is greater than the national average.

Because whole cottonseed market distribution information is not readily available, an on-line survey was created and disseminated to cotton gins throughout Texas to gain a better understanding of distribution and utilization patterns, and assess the risk associated with buying and selling cottonseed for gins, growers, and livestock feeders. Many respondents noted that there is risk of fluctuating prices, and long term storage of seed and forward contracting is used to help mitigate this risk. Cross hedging was mentioned in discussions with gin members as a means to manage price volatility, but this strategy is not typically implemented.

As such, there has been a very limited amount of research on the hedging possibilities for whole cottonseed. With no current contract available for trade on any widely used commodities exchange, cross hedging cottonseed cash prices at the gin or oil mill level might be feasible using futures contracts similar in nature. Possible cross hedging contracts evaluated include soybeans, soybean meal, soybean oil, and corn, all of which are traded at the Chicago Board of Trade, and act as substitutes for cottonseed as protein in livestock rations. Additionally, the canola contract offered by the Winnipeg Commodity Exchange was considered. In order for cottonseed cash prices to be hedged appropriately, there needs to be an adequate correlation between these cash and futures price series.

Correlations between the weekly West Texas whole cottonseed cash price and weekly near month futures prices of the aforementioned contracts were calculated for the price level, price changes, and percent changes in price. Soybeans and soybean meal appear to be most aligned with cottonseed price movement. With this information, optimal hedge ratios are calculated and a strategy is formed using either a simple hedge with a single product or a combination of the contracts to minimize price variability. The strategies analyzed will conceivably allow growers, gins, oil mills, and livestock feeders to reduce price risk and uncertainty and aid in financial decisions. Although this study is primarily focused on markets within the state of Texas, the same methods can be used nationwide with presumably similar results.