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Frequency of Profitable Hedging Opportunities for Lean Hogs, 1999-2008

Lean Hog futures hedging offer an opportunity for producers to lock-in a selling price prior to when the hogs are sold to the packer. This expanded pricing window offers a greater opportunity to protect a profitable price than relying solely on the cash market the day of sale. For the 120 months in 1999-2008 futures offered a breakeven hedge or better 67 percent of the days prior to harvest. Selling in the cash market at harvest was breakeven or better only 60 percent of the time.

This simple analysis compares the basis adjusted futures prices to the estimated cost of production daily for two time periods, six months and ten months prior to harvest. This analysis compares estimated cost of production to the basis adjusted daily futures prices over 6 and 10 month time periods prior to marketing date to determine the frequency of days that a profit could have been hedged during the 1999-2008 time period.

Method

Daily closing prices for CME Lean Hog futures contracts expire beginning February 1999 through December 2008 were used. The futures price for each contract was adjusted by the estimated basis for the first half of each calendar month. Estimated basis was the simple average of the previous 3-year basis for each period. Commission was assumed to be $.13/cwt. The daily expected hedge price (DEHP) was calculated as futures price + expected basis – commission.

The estimated cost of production (COP) for a selling month was based on the Iowa State University Estimated Returns for Farrow to Finish Hog Production adjusted to carcass weight using a dressing percentage of 75 percent. Hedging profit is determined by comparing DEHP to COP. The process was repeated for each trading day in the 6 months and 10 months prior to marketing.

Results

Breakeven selling price could be hedged 67 percent of the time during the 6 month period and 65 percent of the days during the 10 months prior to marketing (Figure 1) when averaged over all contracts and years. The graph also indicates the percent of time that a return of $X/cwt carcass weight or better can be hedged plotted in $3/cwt increments. For example, in the 6 month period a return of -$3/cwt or more can be hedged 75 percent and a return of +$3/cwt or more can be hedged 55 percent.

Figure 1: Percent of Trading Days Where Return is $X or Better Could Be Hedged With Lean Hog Futures, 1999-2008

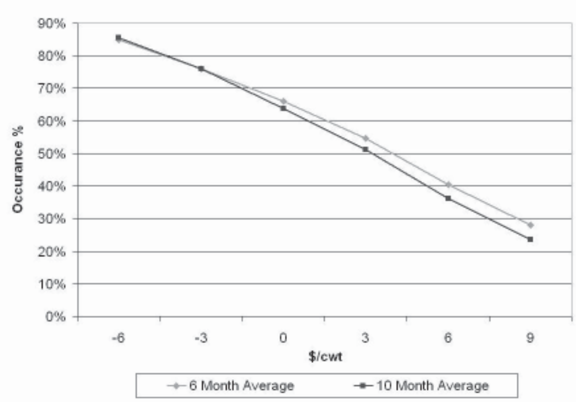

Figure 2: Percent of Trading Days Where Possible to Hedge Breakeven or Better by Month, 1999-2008

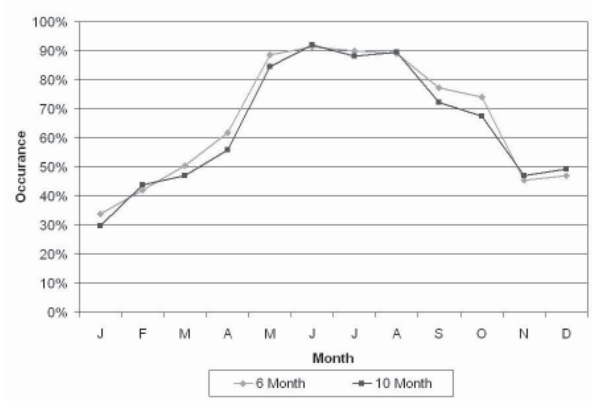

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Figure 2 shows the average percent of time that breakeven can be hedged by selling month. Given the seasonality of hog prices it is not surprising that there is a higher probability of hedging breakeven or better in the summer months that in the fall and winter.

Discussion

While history is not a predictor of the future, this analysis indicates that pork producers could hedge breakeven or better approximately two-thirds of the trading days during the 6 months prior to marketing. There is more opportunity to hedge breakeven or better in the summer than fall or winter. Producers can also use this information to evaluate hedging opportunities. For example, a hedge of $9/cwt ($18/head for a 200 pound carcass) has only occurred 30 percent of the time. If it is offered it may be work taking. Likewise, a loss of $6/cwt or better can be hedged 85 percent of the time. The odds favor a better opportunity before the hogs reach market weight.

During this period the cash market was profitable in only 60 percent of the months compared to futures that offered a breakeven or better hedge on 67 percent of the days during the six months prior to slaughter. The table on this page indicates the number of years out of ten that selling in the cash market was breakeven or better during 1999-2008. January and April odds were similar between the cash market and hedging. The cash market has profitable more often for February and March sales than was hedging. However, in the remaining eight months a futures hedge offered a profit a higher percent of the time than did the cash market.

Percent of Years Out of Ten that Selling in Cash Market was Breakeven or Better, by Sales Month.

Month	Percent
January	30
February	70
March	60
April	60
May	80
June	70
July	80
August	80
September	70
October	50
November	30
December	40