CORNHUSKER ECONOMICS

University of Nebraska–Lincoln Extension

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Institute of Agriculture & Natural Resources
Department of Agricultural Economics
http://www.agecon.unl.edu/Cornhuskereconomics.html

Using Hedge Information as a Risk Management Tool for Feeder Cattle

Market Report	Yr Ago	4 Wks Ago	9/12/08
Livestock and Products, Weekly Average			
Nebraska Slaughter Steers, 35-65% Choice, Live Weight	$92.75	$99.63	$97.59
Nebraska Feeder Steers, Med. & Large Frame, 550-600 lb.	127.68	*	117.24
Nebraska Feeder Steers, Med. & Large Frame 750-800 lb.	123.72	116.36	111.66
Choice Boxed Beef, 600-750 lb. Carcass	147.07	164.26	159.90
Western Corn Belt Base Hog Price Carcass, Negotiated	62.89	85.98	67.82
Feeder Pigs, National Direct 50 lbs, FOB	50.28	50.49	47.29
Pork Carcass Cutout, 185 lb. Carcass, 51-52% Lean	67.67	93.75	75.46
Slaughter Lambs, Ch. & Pr., Heavy, Wooled, South Dakota, Direct	102.37	102.87	97.50
National Carcass Lamb Cutout, FOB	259.49	278.57	273.41
Crops, Daily Spot Prices			
Wheat, No. 1, H.W. Imperial, bu.	7.64	7.70	6.43
Corn, No. 2, Yellow Omaha, bu.	3.10	5.10	5.40
Soybeans, No. 1, Yellow Omaha, bu.	8.60	12.07	12.09
Grain Sorghum, No. 2, Yellow Dorchester, cwt.	5.34	7.71	8.27
Oats, No. 2, Heavy Minneapolis, MN , bu.	2.70	*	*
Feed			
Alfalfa, Large Square Bales, Good to Premium, RFV 160-185 Northeast Nebraska, ton.	135.00	190.00	190.00
Alfalfa, Large Rounds, Good Platte Valley, ton.	87.50	77.50	77.50
Grass Hay, Large Rounds, Premium Nebraska, ton.	*	85.00	85.00
Dried Distillers Grains, 10% Moisture, Nebraska Average.	*	170.00	162.50
Wet Distillers Grains, 65-70% Moisture, Nebraska Average.	38.75	57.00	59.25

*No Market

The Theory Behind A Hedge

Hedging can be a valuable tool to minimize price uncertainty for producers. There are two types of hedges producers may use, a short hedge and a long hedge. Short hedges are used to lock in a net selling price when prices are expected to fall, while a long hedge is used to lock in a buying price when prices are expected to rise for a commodity that is bought and used as an input.

A short hedge is initiated by selling a contract on the futures market. The contract is generally bought back close to the time the contracted commodity is sold in the cash market. If the futures contract value decreases, money is made on the transaction. If the futures contract increases in value as time passes, money is lost on the transaction. The resulting gain/loss on the futures contract transactions offset changes in the cash market due to price changes for the commodity, resulting in the net amount paid or received being close to the expected price. The reason this works in deferring risk is that movements in the cash price generally reflect the futures price, with the difference defined as the basis. If basis behaves in a normal way, the actual payoff or net price received will be the same as the expected price. A long hedge is the reciprocal of the short hedge. A long hedge is initiated to protect the producer from the expectation of rising costs.

The Hedge Calculator: Historical Example

The Hedge Calculator was designed by Matt Stockton and Roger Wilson from the West Central Research and Extension Center, Brian Williams, a graduate student and Nicolas Gustal, a foreign exchange student, in the Dept. of Agricultural Economics at the University of Nebraska. The purpose of the Hedge Calculator is to help users understand how a hedge works, how the futures market can be used to his/her benefit, and as a way to explore differences in basis performance. The calculator is designed for those who use a spring-calving operation, and includes data from the years 2000-2007. However, the concepts within the calculator can be used by ranchers with any type of operation. The

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"Historical Example" worksheet of the Hedge Calculator allows the user to select the week and month they would like to place a hedge, as well as the sale date and weight. The spreadsheet then calculates the expected selling price for the calves using a historical basis derived from the most recent three years of data from the Nebraska Combined Auction data, available from the Livestock Marketing Information Center (LMIC). The user is requested to decide if he/she is satisfied with the price. If so, the program will show the results from hedging that year, otherwise it will only display the cash price received on the sale date. The first year for viewing a simulated hedge is 2000.

The resulting calculations in the "Historical Example" worksheet show the user the advantages and disadvantages of hedging. By hedging, producers reduce the risk of a price reduction. As an opportunity cost, however, producers must be willing to forgo any additional revenue that would have been received if prices rise. The lost revenue as a result of the choice to hedge can be interpreted as a premium for insurance against falling prices. It should be noted that hedging is not a get rich scheme, but a method of deferring price uncertainty.

What Good is the Futures Market if You Don't Hedge?

The futures market is a valuable tool for calculating an expected price, or developing a price forecast. Thousands of individuals participate in the futures market daily, each with their own idea of how current conditions will affect market prices in the future. All of these ideas and expectations collide in the futures market in the discovery of a contract price. A discovered price is the market's best guess of the future price. The price forecast created by this process is considered to be one of, if not the best, price forecasting tool available.

Within the Hedge Calculator are two additional worksheets that provide current price forecast and historical performance of the futures market's price forecasting ability. The first worksheet, "Expected Price Calculator," provides a price forecast when the user enters his/her local basis and the appropriate futures price. Users could utilize different basis expectations to capture the range of possible net prices. By using a locally determined basis with published futures contract prices, the Expected Price Calculator provides a locally adjusted price forecast.

The second of these worksheets, the "Price Forecasting" worksheet, helps users discover the historical accuracy of the price forecast for a user specified hedge period using the Nebraska markets. The available start dates range from March to July. By selecting the month and the week with the month, a forecast is made for each of the years from 2000 to 2007.

Theory suggests that the closer the price forecast is made to the futures contract expiration the more likely that it will match the cash price. Figures 1 and 2, graphs from the Price Forecasting worksheet, show the differences based on historical futures price data of a March and July hedge due to mature in September. In these figures, the red line is the actual cash price in September of that year while the blue line is the predicted September cash price. In Figure 1, the forecast for September prices was made in late July, which more closely matches actual prices than those forecast by the March hedge in Figure 2.

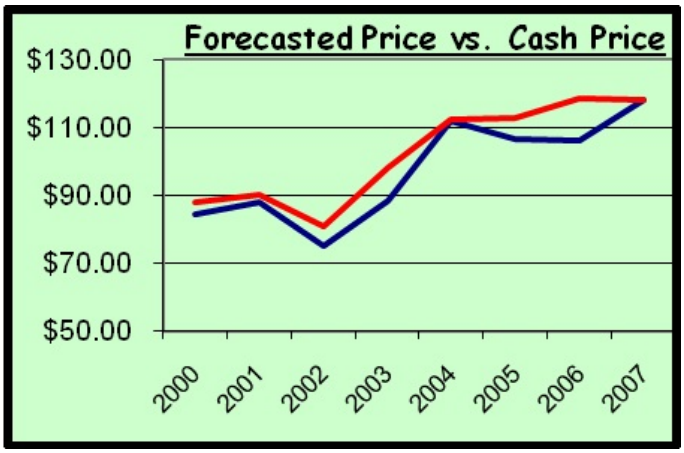

Figure 1. September Cash Price as Predicted in July

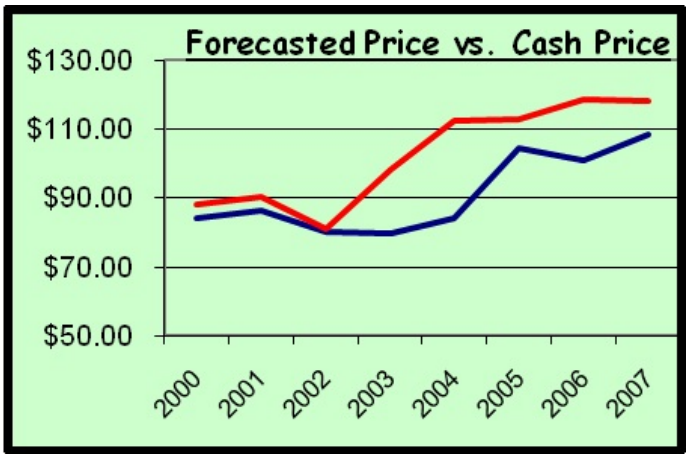

Figure 2. September Cash Price as Predicted in March

The Hedge Calculator is easily accessed and available for downloading on the web at www.agmanagerstools.com. The authors welcome and encourage any comments and/or questions.

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