4. Evaluating the Livestock Hedge

The discussion, which follows, is limited to placing a hedge at the beginning of a feeding or production period and lifting the hedge when the livestock are ready for market, referred to as a "conservative hedge" or a "hedge and hold". These are not the only times you can place or lift hedges. For example:

1. The hedge can be placed whenever the futures market offers a satisfactory return or when prices appear to have peaked, based on market analysis information. Until the hedge is placed the producer or feeder absorbs all price risk for cattle owned.

2. Because of a favorable basis a producer or feeder may decide to lift a hedge early rather than wait until livestock are physically ready for market. This shifts all of the price risk back to the cattle owner, which may defeat the purpose of the original hedge.

A potential hedger should carefully study forecasts of futures prices before hedging. Obtain price forecasts from several sources, including reputable market analysts with private firms, land-grant universities and the USDA. The important thing is to be consistent with the market information source selected.

The total cost of putting cattle on the market i.e., production and marketing costs, must be estimated. This is necessary to realistically evaluate the profit potential from hedging at any particular time. This will also help avoid the pitfall of inadvertently hedging in a loss. Most importantly, price and profit goals and objectives should be developed before hedging takes place.

Analysis of Expected Hedge Returns

Hedging in the commodity futures markets is a method of forward pricing livestock. There is no guarantee that a hedge price will be a higher price or even a profitable price. Thus, the decision to hedge to not to hedge is a difficult one to make. In the final analysis the decision will depend upon the producer's evaluation of a given market situation relative to the producer's forward pricing objectives and strategy.

The hedging decision process outlined below is relevant to any forward pricing hedge regardless of objective or strategy. The focus is on two basic questions. First, what price is the futures market offering for my livestock? And second, how much potential profit does that price represent?

Before producers can make a pricing decision, they must know what they are attempting to accomplish with their forward price. Once the decision is made, the hedge must be carried through to completion in order to realize the price that was established by hedging.

The basic hedging procedure consists of 1) determining costs of production, 2) determining hedging objectives 3) localizing the futures price, 4) evaluating potential pricing/hedge alternatives, 5) making the hedging decision, and 6) completing the hedge.

Know your hedging objectives

There are two basic factors, which might motivate a livestock producer to forward price his/her cattle. First, the producer may feel that the current futures market price reflects a higher price than cash market prices will be when livestock are ready for sale. Second, a producer may be unwilling or unable to accept the risk of prices lower than those indicated by current futures prices even if the producer thinks cash prices may be higher at time of sale.

In short, the two basic objectives of hedging are higher prices and more certain prices. The objectives are derived from the basic concepts of risk management.

To achieve the objective of a higher price, the producer must be able to accurately anticipate cash market prices months in advance of delivery. The objective is not accomplished if the hedged futures price is lower than the price received had the other producer not hedged. On the other hand, this objective is not met if the producer does not hedge when a high futures price is available and later has to sell livestock at a price lower than could have been received by hedging.

The producer with the objective of reducing prices risk has a much better chance of success in fulfilling hedging or forward contracting objectives. A more certain price requires that a hedger be able to estimate the differences in prices between two markets (or basis) more accurately than he can forecast cash market prices. These differences are not perfectly predictable, but prices differences between markets are generally more stable and are much easier to anticipate than are cash market prices that will prevail months into the future.

The objective of a more certain price requires only that profits or losses in the cash market be offset by futures marker losses or profits. However, the objective of higher prices requires that profits be made in the futures market to add to any profits made from the sale of livestock in the cash market.

Producers with the objective to reduce price risk include those who want to reduce the total risk associated with a predetermined level of production. There are two basic types of risk associated with a livestock enterprise, production risk and price risk. Hedging (or forward contracting) can be used to reduce market risk and thus reduce total risk associated with a given level of output.

The hedging objectives of different livestock producers may be different, and objectives of a given producer may vary at different points in time. Without a clear-cut objective, the producer has a weak foundation for his/her hedging decision. Also, it is not possible to accurately evaluate

hedging results. You must know what you want to do to know how to do it and whether or not it has been done.

Key Points to remember about basis:

1. Basis is the cash market price minus the futures price at the completion of production.
2. For a short hedger, the more positive (stronger) the basis, the higher the price received for livestock.
3. For a long hedger, the more negative (weaker) the basis, the lower the price paid for livestock.
4. Knowing the expected basis enables a hedger to translate a futures price into an expected local cash price, compare that to the expected breakeven price and decide whether or not to hedge.

Key Points to remember on the short hedge:

1. A short hedge protects a livestock seller against falling prices.
2. Selling livestock futures helps to lock in a sale price for livestock to the extent that basis turns out as expected.
3. Simultaneously buying back the futures contracts and selling the livestock in the cash market completes a short hedge.
4. If prices fall, the lower cash price is offset by a gain in the futures market.
5. If prices rise, the loss in the futures market is offset by a higher cash market price. Realized basis determines how advantageous the hedge results are.

Short Hedge Example with Futures

The following discussion details the placing of an output (short) hedge in the futures market for use in reducing the price risk associated with selling feeder cattle. For example, a feeder cattle producer knows he/she will be selling cattle five months from now. The producer knows that by selling his/her feeder cattle for over $150/cwt. he/she can insure a satisfactory profit. Currently, the local feeder cattle price is $151/cwt., and the producer believes that the price may drop during the next few months. By knowing the cost of production of these animals, the producer knows that the $150/cwt. will allow for a satisfactory profit. What can the producer do? The producer could also enter the futures market and offset any loss in value (decrease in price) with a gain in the futures market.

How do I Place a Hedge?

Placing a hedge can be a simple process. First, knowing your cost of production helps you know when to place a hedge. To place a hedge, you need to contact a broker with whom you place an order. Most large communities have a broker who will take your order for a set fee (as is common when placing any futures market order). The broker can be helpful in informing you on

how to appropriately place and exit your hedging position. The broker has a stake, i.e., commission, in making sure your experience with hedging using futures is a good one. After you have placed the order with the broker, the broker will contact a brokerage house at the commodity exchange and relay the order. On the trading floor of the trading commission open out-call is used in matching market supply and demand forces. If you want to place a short hedge, there will always be either someone wanting to place a long hedge or a speculator willing to offset your risk. This process is known as arbitrage.

Remind me what the Feeder Cattle Futures Specs are….

Trading Venue Open Outcry, CME Globex System
Contract Size 50,000 pounds
Minimum Price Increment $.00025 per pound ($12.50 per contract)
Daily Price Limit $.03 per pound ($1500)
Last Trading Day Generally last Thursday of contract month
Contract Months Jan, Mar, Apr, May, Aug, Sep, Oct, Nov
Position Limits1950 contracts in non-spot month; 300 in spot month
Trading Hours Open Outcry: 9:05 am to 1:00 pm. Globex: 9:05 am Monday to 1:55 p.m. Friday with trading halt from 4-5 pm. daily
Settlement Cash settled to CME Feeder Cattle Index

What is the Cost of Hedging?

Brokerage Fee. The broker charges a fee of roughly $50 to $70 per contract, which covers both the initial sale or purchase and the offsetting transaction at the time the hedge is completed. The brokerage fee amounts to about $0.14/cwt. of livestock hedged with contract sizes of 50,000 pounds (lbs.) for feeder cattle.

Federal Trade Commission regulations make the brokerage fee negotiable between the trader and the broker; therefore, the specific fee will vary; brokerage fees can be estimated with a broker's help.

Interest on margin money: An additional hedging cost is the interest cost on margin money. The hedger must put up a security deposit with the broker at the time the initial transaction is made. This usually amounts to five to 10 percent of the total value of the contract. If hedged in short position (a contract has been sold) and futures price moves up, more money must be deposited to cover the total value of the price change. In the price moves down, he may draw out money in the amount of the total of the price change.

Margin cost is the interest cost of the money on deposit. Any unused margin money is returned to the hedger when the hedge is complete. Assuming the market is as likely to move in favor, as it is to move against the hedger, interest cost can be calculated on the initial deposit in estimating hedging costs.

Interest costs on $1,500 at 8% for four months would be calculated as follows: [$1500 x (.08/12months)] x 4 months = $40. Thus, the interest on margins for this typical four-month livestock hedge would be $.08/cwt. (i.e., $40/500 cwt.), for a total hedging cost of $.22/cwt.

Total hedging cost on a livestock hedge including both brokerage fees and margin costs will typically amount to $0.20 to $0.35/cwt. of livestock hedged. However, brokerage fees, margin requirements and interest rates may be different with different brokers, and margin requirements change with changing price levels and changing price variability.

What Can Happen with the Short Futures Hedge?

Any of seven scenarios can arise between the cash and futures price. The only scenario not discussed below is that of the cash and futures prices not changing while the hedge is placed. In this scenario, the producer sells the feeder cattle for the same price as when the hedge was placed. The costs of hedging would then simply be commissions and interest on initial margin. The other scenarios are discussed below. Because the cash and futures markets typically trend in the same direction over time the scenario of the cash and futures moving in opposite directions is not discussed but can happen.

A. Cash and Futures Price both Decreases

1. Cash Price Decreases Faster than the Futures Price (Basis Weakens)

Table 168 is used to describe the actions you might take as a hedger and the outcomes of those actions in placing an output hedge in which the cash price decreases by more than the futures price during the hedging period. In this scenario basis is said to weaken. Following from Table 16Table 8, suppose today you could sell feeder cattle for $151/cwt. in the cash market and the relevant futures contract is trading for $152/cwt. (basis is $1.00 under). Knowing that you will sell cattle at a later date and you want to protect against a price decrease, you take a short position in the futures market at this time. Over the next few months, the local cash price decreases to $147/cwt. and the futures price decreases to $150/cwt. At this time, you decide the cattle need to go to market. You sell cattle in the cash market for $147/cwt. and buy back your futures position for $150/cwt. Therefore, your net selling price from selling cattle is $147/cwt. cash market, plus $2/cwt. gain from the futures position less $.22 commission costs and interest on initial margin. Therefore, instead of realizing a net selling price of $147/cwt., you realize a net selling price of $148.78/cwt. The net price you receive differs from the initial futures contract you sold, $152/cwt., by the amount of the basis loss or weakening basis (-$2/cwt.) and less the commission and interest on marking ($.22).

Table 8: Short Hedge Example using Futures with Cash Price Decrease (Basis Weakens).

Cash	$/cwt.	Futures	$/cwt.	Basis	Basis
Today's local cash:	$151.00	Sell feeder cattle contract at:	$152.00	$(1.00)	Under
Later: sell cattle in local market at:	$147.00	Buy feeder cattle contract back at:	$150.00	$(3.00)	Under
Results		Selling Price, local market:	$147.00		
		Less Commission and Interest on Margin:	$0.22		
		Plus, Futures Gain:	$2.00	$(2.00)	Loss
		Net Selling Price:	$148.78		

2. Futures Price Decreases Faster than the Cash Price (Basis Strengthens)

Table 9 is used to describe the actions you might take as a hedger and the outcomes of those actions in placing a short or output hedge in which the futures price decreases by more than the cash price during the hedging period. In this scenario basis is said to strengthen. Following from Table 9, suppose today you could sell feeder cattle for $151/cwt. and the relevant futures contract is trading for $152/cwt. (basis is $1.00 under). Knowing that you will sell cattle at a later date and you want to protect against a price decrease, you take a short position in the futures market at this time. Over the next few months, the local cash price decreases to $147/cwt. and the futures price decreases to $147/cwt. At this time, you decide the cattle need to go to market. You sell your feeder cattle in the cash market for $147/cwt. and buy back your futures position for $147/cwt. Therefore, your net selling price from selling cattle is $147/cwt. cash market, plus $5/cwt. gain from the futures position less $.22 commission costs and interest on initial margin. Instead of realizing a net selling price of $147/cwt., you realize a net selling price of $151.78/cwt. The net price you receive differs from the initial futures contract you sold; $152/cwt., by the amount of the commission and interest on margin ($.22) only, because of the strengthening basis, which went from -$2 to $0 by the time you took an opposite position or bought back the futures contract.

Table 9: Feeder Cattle Example - Futures Price Decrease Faster than Cash (Basis Strengthens)

Cash	$/cwt.	Futures	$/cwt.	Basis	Basis
Today's local cash:	$151.00	Sell feeder cattle contract at:	$152.00	$(1.00)	Under
Later: sell cattle in local market at:	$147.00	Buy feeder cattle contract back at:	$147.00	$-	Even
Results		Selling Price, local market:	$147.00		
		Less Commission and Interest on Margin:	$0.22		
		Plus Futures Gain	$5.00	$1.00	Gain
		Net Selling Price:	$151.78		

3. Futures Price Decreases at the same rate as the Cash Price

Under this scenario the price you pay is exactly equal to the price you would have paid earlier with the exception of commissions and interest on margin money ($0.22/cwt.). Following with the first two examples, there is no basis change here and the net price is simply equal to the original cash price less commission and interest on margin deposit.

B. Cash and Futures Price both Increases

1. Cash Price Increases Faster than the Futures Price (Basis Strengthens)

Table 10 to describe the actions you might take as a hedger and the outcomes of those actions in placing a short/output hedge in which the cash price increases during the hedging period. In this scenario basis is said to strengthen. Following from Table 10, suppose today you could sell feeder cattle for $151/cwt. and the relevant futures contract is trading for $152/cwt. (basis is $1.00 under). Knowing that you will sell cattle at a later date and you want to protect against a price decrease, you take a short position in the futures market at this time. Over the next few months, the local cash price increases to $154/cwt. and the futures price increases to $153/cwt. At this time, you decide the cattle need to go to market.

Table 10: Short Hedge Example with Cash Price Increase (Basis Strengthens).

Cash	$/cwt.	Futures	$/cwt.	Basis	Basis
Today's local cash:	$151.00	Sell feeder cattle contract at:	$152.00	$(1.00)	Under
Later: sell cattle in local market at:	$154.00	Buy feeder cattle contract back at:	$153.00	$1.00	Over
Results		Selling Price, local market:	$154.00		
		Less Commission and Interest on Margin:	$0.22		
		Plus Futures Loss	$(1.00)	$2.00	Gain
		Net Selling Price:	$152.78		

You sell cattle in the cash market for $154/cwt. and buy back your futures position for $153/cwt. Therefore, the revenue from selling cattle is the cash price received of $154/cwt. less $1/cwt. lost from the futures position less commission and interest on margin, resulting in a net selling price of $152.78. Instead of selling for $154/cwt., because of your hedged position, and a stronger basis you sell for $152.78/cwt., $.78/cwt. higher than what you had sold the futures contract initially.

2. Futures Price Increases Faster than the Cash Price (Basis Weakness)

Table 11 is used to describe the actions a hedger would take and the outcomes of those actions in placing a short/output hedge in which the futures price increased by more than the cash price during the hedging period. In this scenario basis is said to weaken. Following from Table 11, suppose today you could sell feeder cattle for $151/cwt. and the relevant futures contract is trading for $152/cwt. (basis is $1.00 under). Knowing that you will sell cattle at a later date and you want to protect against a price decrease, you take a short position in the futures market at this time. Over the next few months, the local cash price increases to $153/cwt. and the futures price increases to $156/cwt. At this time, you decide the cattle need to go to market. You sell cattle in the cash market for $153/cwt. and buy back your futures position for $156/cwt. Therefore; the revenue from selling cattle is $153/cwt. less $4/cwt. loss from the futures position less $.22/cwt. commission and interest on margin. Instead of selling for $153/cwt. Your net selling price is for $148.78/cwt.

Table 11: Short Hedge Example with Cash Price Increase (Basis Weakens).

Cash	$/cwt.	Futures	$/cwt.	Basis	Basis
Today's local cash:	$151.00	Sell feeder cattle contract at:	$152.00	$(1.00)	Under
Later: sell cattle in local market at:	$153.00	Buy feeder cattle contract back at:	$156.00	$(3.00)	Under
Results		Selling Price, local market:	$153.00		
		Less Commission and Interest on Margin:	$0.22		
		Plus Futures Loss	$(4.00)	$(2.00)	Loss
		Net Selling Price:	$148.78		

3. Futures Price Increases at the same rate as the Cash Price

Under this scenario the price you pay is exactly equal to the price you would have paid earlier with the exception of commissions ($0.15/cwt.). Again, there is no change in the basis in this example, so the net price received is exactly equal to the original price less commission.