# Buying Hedge with Futures

Curriculum Guide

## I. Goals and Objectives

A. Understand the steps of implementing a successful buying hedge.
B. Understand how buying hedges can help manage market price risk in advance of actual cash purchases.

## II. Description/Highlights

A. Many bulk purchasers of agricultural commodities require price risk management tools to help stabilize input prices.

B. When a price is acceptable prior to when the commodity will actually be purchased in the cash market, the buying hedge is a tool that can reduce the risk of increasing prices.

C. A buying hedge is the act of taking a futures market position that is equal and opposite to the ultimate position that will be taken in the cash market. Subject to basis risk, the buying hedge covers the commodity buyer against price increases from the time the hedge is put in place through the time of cash purchases.

D. How a buying hedge works: if futures and cash prices increase while a hedge is in place, gains in the futures market offset the higher cash price. Conversely, if futures and cash prices decrease while a hedge is in place, losses in the futures market will offset the lower cash price. The buying hedge serves to establish a price in advance of actual cash purchases, subject to changes in basis.

E. The first step in implementing a buying hedge is to analyze the expected profit of the enterprise in question. Using a cattle feeder as an example, the producer should analyze how expected profits for fed cattle change as corn price (as the input in question) changes. Only then can the feeder know if the corn price he could hedge would allow the cattle feeding enterprise to achieve its profit goal for the period, holding all other input prices and animal performance constant.

F. The second step is to hedge the correct quantity. Check the contract specifications for the commodity and note the contract quantity. Make sure you take sufficient futures positions to cover all the inputs you desire to hedge.

G. The third step is to use the proper futures contract. Most widely-produced agricultural commodities have a corresponding futures contract (for example, fed and feeder cattle, hogs, corn, wheat, and soybeans). A notable exception is grain sorghum. Because of grain sorghum's close price relationship to corn, input purchasers can use corn futures to manage grain sorghum price risk.

   Pay close attention to the contract month. Project the date of the anticipated cash market transaction and select the futures contract month that best corresponds to that date.

H. Understand basis and develop a basis forecast. Basis is the relationship between local cash prices and futures prices. Failure to account for basis and basis risk could ensure not meeting your buying hedge pricing goals.

I. Be disciplined and hold the hedge until cash commodity purchases or the hedge is offset by another price risk management tool. Producers should only hedge prices that are acceptable to them. Once a hedge position is initiated, the hedge should not be removed before the cash purchase date without careful consideration of the risk exposure.

J. Lead members through case example, "Buying Hedge for Corn." Points to make sure members get out of the example include:

   1. Joe needs to purchase 120 head of 750-pound feeder cattle in October to replace fed cattle that will be sold at that time. This is important because it gives a total number of pounds of feeder cattle Joe will need to hedge.
   2. Joe takes into account not only the futures price, but local basis, in developing his October price projection of $74/cwt. This relates the importance of knowing your historical local basis.
   3. Joe divides the production he would like to hedge (90,000 lbs) by the contract weight specification for feeder cattle (50,000 lbs) and elects to hedge two contracts to cover his total purchase requirements.
   4. Joe's projection of a $74/cwt realized cash price in October is met because the $6/cwt gain in the futures market was applied to the $80/cwt cash price on October 1 **and** because his basis forecast was accurate.

K. Lead members through case example (continued), "What If Joe's Price Outlook Was Incorrect?" Points to make sure members get out of the example include:

   1. In October, cash and futures prices have both decreased. Joe's buying hedge ensured a $74/cwt realized cash price because the $70/cwt cash price on October 1 was increased by a $4/cwt loss in the futures market. Again, his basis forecast was accurate.
   2. Joe might be disappointed with the results of this buying hedge. He should remember, however, that the decision to put the hedge in place was made carefully and was based on his best price forecast.

L. Close out lesson with detail of advantages and disadvantages of a buying hedge with futures.

**Advantages and Disadvantages of a Buying Hedge with Futures**

| Advantages | Disadvantages |
|---|---|
| 1. Reduces risk of price increases | 1. Gains from price declines are limited |
| 2. Could make it easier to obtain credit | 2. Risk that actual basis will differ from projection |
| 3. Establishing a price aids in management decisions | 3. Futures position requires a margin deposit and margin calls are possible |
| 4. Easier to cancel than a forward contract arrangement | 4. Contract quantity is standardized, may not match cash quantity |

## III. Potential Speakers

A. Local commodity brokers
B. Feedyard or grain elevator marketing managers
C. Extension economists

## IV. Review Questions

A. What is a futures hedge?
Taking an equal and opposite position in the futures market from the expected ultimate position taken in the cash market.

B. What are the five steps to implementing a successful buying hedge?
(1) Analyze the expected profit of the enterprise, (2) Hedge the correct quantity, (3) Use the proper futures contract and contract month, (4) Develop a basis forecast, (5) Be disciplined and hold your hedge position.

## V. Related Publications in this Series

A. Selling Hedge with Futures (RM2-14.0)
C. Hedging with a Put Option (RM2-12.0)
D. Knowing and Managing Grain Basis (RM2-3.0)
E. Livestock Basis (RM2-5.0)

# ! The Basics of a Buying Hedge

☞ A **buying hedge** is the act of taking a futures market position that is equal and opposite to the position that will ultimately be taken in the cash market.

☞ **Why use?** When a commodity price is acceptable prior to when the commodity will actually be purchased in the cash market, buying hedges can reduce the risk of increasing prices.

☞ **How it works:** If futures and cash prices increase while a hedge is in place, gains in the futures market offset the higher cash price.

If futures and cash prices decrease while a hedge is in place, losses in the futures market offset the more favorable cash price.

As long as the basis forecast is accurate, the projected hedgable price will equal the actual realized cash price.

## Steps to Implementing a Successful Buying Hedge

1. Analyze expected profit of the enterprise and determine your maximum purchase price.

2. Determine the quantity to hedge.

3. Use the proper futures contract.

   - Futures contracts are available for most widely-produced agricultural commodities.
   - For other crops price risk can be managed using other futures contracts for similar commodities (ex. hedging grain sorghum with corn futures).
   - Be sure you use the proper contract month.

4. Understand basis and make an accurate basis forecast.

5. Be disciplined
   - Maintain hedge position through cash purchases or until another price risk management tool is implemented.
   - Do not remove a hedge position prior to cash purchase without very careful consideration.

# Case Example – Feeder Steers Buying Hedge

Joe is a cattle feeder who needs to replace a pen of cattle in the feedlot in October. He needs to purchase 120 head of 750-pound feeder steers at that time.

**In June:** Joe notices November CME Feeder Cattle futures are trading at $75/cwt. The historical basis for 750-pound steers in early October (cash minus futures) is -$1/cwt (i.e., cash is $1/cwt less than futures). Joe projects a cash purchase price of $74/cwt (futures price less projected basis). This price is acceptable to him. He decides to hedge 90,000 lbs (or 2 contracts at 50,000 cwt each).

**In October:** Cash market is $80/cwt and Nov CME Feeder Cattle futures are at $81/cwt. Basis is -$1/cwt, just as predicted.

| | Cash Market | Futures Market | Basis |
|---|---|---|---|
| **June 15** | Objective: to realize a feeder cattle purchase price of $74/cwt | Buys 2 CME November Feeder Cattle contracts at $75/cwt | Projected at -$1/cwt |
| **October 1** | Buys 120 head of 750 lb. feeder steers at $80/cwt | Sells 2 CME November Feeder Cattle contracts at $81/cwt | Actual basis, -$1/cwt ($80 - $81) |
| | **Gain or loss in Futures ➽** | *Gain* of $6/cwt ($81 - $75) | |

**Results of Buying Hedge:**

| | | |
|---|---|---|
| Actual cash purchase price | | $80.00 |
| Futures profit | - | $ 6.00 |
| Realized purchase price | | $74.00 * |

* Without commission and interest.

## How Did the Buying Hedge Work?

**On June 15:** Joe projected an October cash price of $74/cwt. He bought 2 Nov CME Feeder Cattle futures contracts at $75/cwt.

**On October 1:** He bought the steers for $80/cwt and sold his futures contracts back for $81/cwt. Net gain from futures transaction: $6/cwt.

Applying the $6/cwt futures gain to the $80/cwt cash price, Joe realized a sales price of $74/cwt.

## Why Did the Buying Hedge Work?

Joe forecast basis accurately. Basis moves can increase or decrease the realized sales price.

# ! What if Joe's Price Outlook Was Incorrect?

☞ On June 15, Joe projected an October 1 cash price of $74/cwt. He bought 2 Nov CME Feeder Cattle futures contracts at $75/cwt.

☞ On October 1, he bought feeder steers for $70/cwt and cold his futures contracts back for $71/cwt. Net ***loss*** from futures transaction: $4/cwt.

☞ Applying the $4/cwt futures loss to the $70/cwt cash price, Joe realized a purchase price of $74/cwt.

| | Cash Market | Futures Market | Basis |
|---|---|---|---|
| **June 15** | Objective: to realize a feeder cattle purchase price of $74/cwt | Buys 2 CME November Feeder Cattle contracts at $75/cwt | Projected at -$1/cwt |
| **October 1** | Buys 120 head of 750 lb. feeder steers at $70/cwt | Sells 2 CME November Feeder Cattle contracts at $71/cwt | Actual basis, -$1/cwt ($70 - $71) |
| | **Gain or loss in Futures ➽** | *Loss* of $4/cwt ($71 - $75) | |


**Results:**

| | | |
|---|---|---|
| Actual cash purchase price | | $70.00 |
| Futures loss | + | $ 4.00 |
| Realized purchase price | | $74.00 * |

* Without commission and interest.

Joe might be disappointed with the result of this buying hedge. He should remember that the decision to put the hedge in place was made carefully and helped attain a price that he deemed acceptable months before the time of purchase.

| **Advantages and Disadvantages of a Buying Hedge with Futures** | |
|---|---|
| ***Advantages*** | ***Disadvantages*** |
| 1. Reduces risk of price increases | 1. Gains from price declines are limited |
| 2. Could make it easier to obtain credit | 2. Risk that actual basis will differ from projection |
| 3. Establishing a price aids in management decisions | 3. Futures position requires a margin deposit and margin calls are possible |
| 4. Easier to cancel than a forward contract arrangement | 4. Contract quantity is standardized, may not match cash quantity |