



Selling Hedge with Futures

Curriculum Guide

I. Goals and Objectives

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

II. Description/Highlights

- A. When a price is acceptable prior to when the commodity will actually be sold in the cash market, the selling hedge is a tool that can reduce the risk of declining prices.
- B. A selling 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 selling hedge covers the crop or livestock seller against price declines from the time the hedge is put in place through the time of cash sales.
- C. How a selling hedge works: if futures and cash prices decrease while a hedge is in place, gains in the futures market offset the lower cash price. Conversely, if futures and cash prices increase while a hedge is in place, losses in the futures market will offset the higher cash price. The selling hedge serves to establish a net sales price in advance of actual cash sales, subject to changes in basis.
- D. The first step in implementing a selling hedge is to analyze the expected profit of the enterprise in question. Knowing the cost of production for the commodity to be marketed is the primary way to determine how attractive the hedgable price is. One should remember that hedging a price that ensures a profit might not always be possible. Prudent managers sometimes use selling hedges to minimize losses when market conditions dictate.
- E. 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 production you desire to hedge.
- F. 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, producers 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. For example, an expected September corn sale would be hedged against December CBOT corn futures, since there are no contracts available for October or November.

- G. 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 selling hedge pricing goals.
- H. Be disciplined and hold the hedge until cash commodity sales 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 sale date without careful consideration of the risk exposure.
- I. Lead members through case example, “Selling Hedge for Corn.” Points to make sure members get out of the example include:
 - 1. Bill’s 10-year average production level and the minimum production for the past five years. This is important because it gives a minimum level of production that Bill feels comfortable he will actually harvest.
 - 2. Bill takes into account not only the futures price, but local basis, in developing his harvest-time price projection of \$2.60/bushel. This relates the importance of knowing your historical local basis.
 - 3. Bill divides the production he would like to hedge (15,000 bushels) by the contract weight specification for corn (5,000 bushels) and elects to hedge three contracts.
 - 4. Bill’s projection of a \$2.60/bushel realized cash price in October is met because the \$0.20/bushel gain in the futures market was added to the \$2.40/bushel cash price at harvest **and** because his basis forecast was accurate.
 - 5. Just because Bill’s selling hedge worked, did he receive \$2.60/bushel for his whole crop? The answer is yes if Bill only produced 15,000 bushels. If he produced his 10-year average of 24,000 bushels, he would have received \$2.60/bushel for the hedged quantity and \$2.40/bushel for the 9,000 unhedged bushels for an average price of \$2.525/bushel. If he produced more than his historical average production, the average price would be less than \$2.525/bushel. If he produced less than his historical average production, the average price would be less than \$2.525/bushel.
- J. Lead members through case example (continued), “What If Bill’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 increased. Bill’s selling hedge ensured a \$2.60/bushel realized cash price because the \$2.85/bushel cash price at harvest was reduced by a \$0.25/bushel loss in the futures market. Again, his basis forecast was accurate.
 - 2. Bill might be disappointed with the results of this selling 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.

- K. Close out lesson with detail of advantages and disadvantages of a selling hedge with futures.

Advantages and Disadvantages of a Selling Hedge with Futures

Advantages

1. Reduces risk of price declines
2. Could make it easier to obtain credit
3. Establishing a price aids in management decisions and can help stabilize crop income within a crop year
4. Easier to cancel than a forward contract arrangement

Disadvantages

1. Gains from price increases are limited
2. Risk that actual basis will differ from projection
3. Year-to-year income fluctuations may not be reduced with hedging
4. Contract quantity is standardized, may not match cash quantity
5. Futures position requires a margin deposit and margin calls are possible

III. Potential Speakers

- A. Local commodity brokers
- B. Grain elevator or feedyard 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 selling 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. Buying Hedge with Futures (RM 2-15.0)
- B. Hedging with a Puts Option (RM 2-12.0)
- C. Knowing and Managing Grain Basis (RM2-3.0)
- D. Livestock Basis (RM 2-4.0)



! The Basics of a Selling Hedge

- ☞ A **selling hedge** is 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 sold in the cash market, selling hedges can reduce the risk of declining prices.

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

If futures and cash prices increase while a hedge is in place, losses in the futures market offset the higher cash price.

The key to hedging is knowing your basis.

Selling Hedge with Futures



Steps to Implementing a Successful Selling Hedge

1. Analyze expected profit of the enterprise and determine your breakeven cost of production
2. Determine 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. Estimate your expected basis
5. Be disciplined
 - ! Maintain hedge position through cash sales date or until another price risk management tool is implemented
 - ! Do not remove a hedge position prior to cash sales without very careful consideration

Selling Hedge with Futures



Case Example – Selling Hedge for Corn

Bill is a corn farmer who harvests in October. His 10-year average corn production is 24,000 bu. During the past 5 years, the lowest production has been 15,000 bu.

In March: December CBT Corn futures is \$2.65. Historical harvest-time basis is $-\$.05/\text{bu}$. Bill projects a harvest-time cash price of $\$2.60/\text{bu}$ (futures price less projected basis) which is acceptable to him. He decides to hedge 15,000 bu (or 3 contracts at 5,000 bu each), an amount he believes he will produce.

In October: Cash market at harvest is $\$2.40/\text{bu}$ and Dec CBT Corn futures are at $\$2.45/\text{bu}$. Basis is $-5\text{¢}/\text{bu}$, just as predicted.

	Cash Market	Futures Market	Basis
March 5	Objective: to realize a corn sales price of $\$2.60/\text{bu}$	Sells 3 CBOT December corn contracts at $\$2.65/\text{bu}$	Projected at $-\$.05/\text{bu}$
October 10	Sells 15,000 bu of corn at $\$2.40/\text{bu}$	Buys 3 CBOT December corn contracts at $\$2.45/\text{bu}$	Actual basis, $-\$.05/\text{bu}$ ($\$2.40 - \2.45)
Gain or loss in Futures ➡		Gain of $\$0.20$ ($\$2.65 - \2.45)	

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Results of Selling Hedge:

Actual cash sales price		\$2.40/bu
Futures profit	+	<u>\$0.20/bu</u>
Realized sales price		\$2.60/bu *

* Without commission and interest.

How Did the Corn Selling Hedge Work?

March 5 - Bill's projected harvest-time cash price was \$2.60/bu. He sold 3 Dec CBT Corn futures contracts at \$2.65/bu.

October 10 - He sold his corn for \$2.40/bu and bought his futures contracts back for \$2.45/bu. Net gain from futures transaction: 20¢/bu.

Applying the 20¢/bu futures gain to the \$2.40/bu cash price, Bill realized a sales price of \$2.60/bu.

Why Did the Corn Selling Hedge Work?

Bill forecasted the basis accurately. Basis moves can increase or decrease the realized sales price.

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! What if Bill's Price Outlook Was Incorrect?

- ☞ On March 5, Bill projected harvest-time cash price of \$2.60/bu. He sold 3 Dec CBT Corn futures contracts at \$2.65/bu.
- ☞ On October 10, he sold his corn for \$2.85/bu and bought his futures contracts back for \$2.95/bu. Net *loss* from futures transaction: 25¢/bu.
- ☞ Deducting the 25¢/bu futures loss to the \$2.85/bu cash price, Bill realized a sales price of \$2.60/bu.

	Cash Market	Futures Market	Basis
March 5	Objective: to realize a corn sales price of \$2.60/bu	Sells 3 CBOT December corn contracts at \$2.65/bu	Projected at -\$0.05/bu
October 10	Sells 15,000 bu of corn at \$2.85/bu	Buys 3 CBOT December corn contracts at \$2.90/bu	Actual basis, -\$0.05/bu (\$2.85 - \$2.90)
Gain or loss in Futures ➡		<i>Loss</i> of \$0.25 (\$2.65 - \$2.90)	

Selling Hedge with Futures



Results:

Actual cash sales price		\$2.85
Futures loss	-	<u>\$0.25</u>
Realized sales price		\$2.60 *

* Without commission and interest.

Bill might be disappointed with the result of this selling 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 harvest-time.

Advantages and Disadvantages of a Selling Hedge with Futures	
<i>Advantages</i>	<i>Disadvantages</i>
1. Reduces risk of price declines	1. Gains from price increases 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 and can help stabilize crop income within a crop year	3. Year-to-year income fluctuations may not be reduced with hedging
	4. Contract quantity is standardized, may not match cash quantity
4. Easier to cancel than a forward contract arrangement	5. Futures position requires a margin deposit and margin calls are possible