



# Knowing and Managing Grain Basis

## Curriculum Guide

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### I. Goals and Objectives

- A. To learn the definition of basis and gain an understanding of the factors that determine basis.
- B. To gain an understanding of the seasonal trends in basis.
- C. To learn what prices need to be tracked to assist in evaluation of harvest sales or storage decisions.
- D. To gain an knowledge of the “tools” available to manage basis risk.

### II. Description/Highlights

- A. Basis is defined as cash minus futures. Basis can be positive or negative depending on the factors that determine basis. These factors include: local supply and demand for grain; supply and demand for transportation services, variations in grade between what is grown and the futures contract specification; and the availability of substitutes for the grain at a particular location. Generally, transportation expense makes up the largest portion of basis.
- B. Changes in basis are not as volatile as changes in cash or futures prices. Changes in basis do tend to follow seasonal patterns. At harvest, grain supplies are generally plentiful resulting in a high demand for transportation services and an increased cost to move grain (weak basis). Post harvest improvement in basis often occurs because of increased availability of transportation services at a potentially better price and improvements in local supply and demand conditions.
- C. Producers need to track two items with respect to basis weekly at all locations they may consider marketing their grain. First, the relationship of the cash grain price and the nearby futures contract. This will provide an estimate of basis for delivery of grain any time during the year. This basis information combined with a comparison of the harvest futures contract and the deferred futures contracts will provide invaluable information in making grain storage decisions.

Second, basis contract and/or forward contract offers for harvest delivery of grain need to be tracked weekly. Elevator operators may receive special “deals” on transportation services or contracts for grain from buyers at premiums. A portion of these premiums may be passed on to producers in the form of favorable forward contract or basis

contract offers. These premium opportunities tend to disappear as the amount of grain needed is committed by producers.

- D. Elevators generally offer two standard ways a producer can lock his basis, forward cash contract and a basis contract. A forward cash contract locks both the price and basis. This tool is to be used when both price and basis appear favorable.

A basis contract locks in the difference (basis) between cash and futures for a specified delivery priced. The producer can convert it into a forward cash contract any time up until the specified delivery time. Producers must be aware that these contracts may be in 5,000 bushel increments to correspond with futures contract specifications.

In areas where forward cash contracts are available but basis contracts are not, synthetic basis contracts can be created. This involves forward contracting the grain and buying a corresponding futures contract thus locking the basis. The final price is determined when the futures position is offset. Another possibility for managing basis risk with upward price mobility is a minimum price contract.

### **III. Potential Speakers**

- A. Elevator operator
- B. Grain merchandiser
- C. Transportation broker
- D. Extension economists

### **IV. Class Exercise On Basis**

- A. Assign members to track basis at local elevators weekly. At each meeting, have them report current basis, forward contract and basis contract offers.
- B. Assign a member to research the five-year historical basis locally or regionally. This will allow more accurate evaluation of current offers. Potential sources of this information are local elevators and/or Extension economists.

### **V. Review Questions**

- A. What is the definition of basis? Cash - Futures.
- B. What are the primary factors that determine basis?  
Answer: (1) transportation costs, (2) local supply and demand for grain, (3) quality variations from underlying futures contract specifications, (4) availability of substitutes for grain.
- C. Does basis tend to follow seasonal patterns?  
Answer: Yes, typically basis is weakest at harvest when ample supplies are available and tends to strengthen as the year goes on and supplies dwindle.
- D. What are some methods of controlling basis risk?  
Answer: (1) Forward contracts, (2) basis contracts, (3) synthetic basis contracts and (4) minimum price contracts.

## **VI. For More Details**

Dean McCorkle, Mark Waller, and Dan O'Brien. Post-Harvest Marketing Alternatives, RM 2-30.0, Risk Management Education Curriculum Guide. Texas Agricultural Extension Service. June, 1998.

James D. Sartwelle, III, Edward Smith, Terry Kastens, and Daniel O'Brien. Selling Hedge With Futures, RM 2-14.0, Risk Management Education Curriculum Guide. Texas Agricultural Extension Service. April, 1998.

Mark Waller, Steve Amosson, William Tierney, and Kevin Dhuyvetter. The Minimum Price Contract, RM 2-17.0, Risk Management Education Curriculum Guide. Texas Agricultural Extension Service. April, 1998.



## ! Grain Basis

☞ Basis = Cash - Futures

## ! Characteristics of Basis

☞ Less volatile than futures or cash price

☞ Basis can be positive or negative

☞ Basis has seasonal trends

## ! Factors that Determine Basis

☞ Transportation costs

☞ Local supply and demand conditions

☞ Quality variation from underlying futures contract specifications

☞ Availability of substitutes



## ! Knowledge of Basis Information is Critical

- ☞ Evaluating forward pricing opportunities
- ☞ Evaluating grain storage decisions

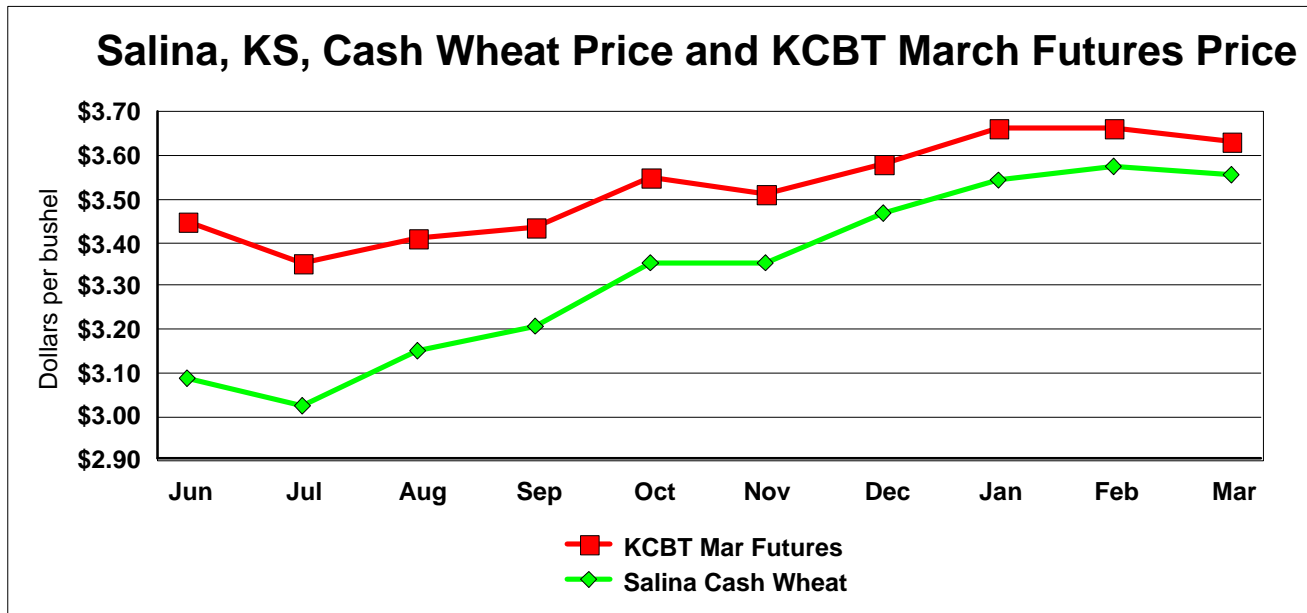
## ! Trends in Grain Basis

- ☞ Basis tends to be “wider” in the months prior to contract expiration due to uncertainty
- ☞ Basis tends to equal transportation cost as the contract reaches expiration due to the lack of uncertainty

# Knowing and Managing Grain Basis



## ! Seasonal Basis Trends



Basis tends to be the weakest at harvest

- ✓ Ample grain supplies
- ✓ Greater demand for transportation services



Basis tends to improve post harvest

- ✓ Improving local supply and demand
- ✓ Less demand on transportation services



## Tracking Basis

- ! Cash price vs. nearby futures contract
  
- ! Provides information necessary to evaluate
  - ☞ Storage decisions by combining -----
    - ✓ Expected improvements in basis by storing
    - ✓ Value of storage offered by the futures market deferred contract (storage) - harvest contract
    - ✓ For more information on the storage decision see publication entitled “Post Harvest Marketing Alternatives” (RM2-30.0)
  
- ! Forward cash contract and basis contract offers for harvest delivery
  - ☞ Forward basis offers are more stable than cash or futures but do vary
  
  - ☞ Tracking forward cash and/or basis contract offers may help identify excellent pricing opportunities





## Managing Basis Risk

### ! Forward Cash Contract

- ☞ Locks price and basis

### ! Basis Contract

- ☞ Locks basis with price to be determined at or prior to delivery

### ! Synthetic Basis Contract

- ☞ Combination of a forward cash contract and a long position on the futures
- ☞ Final price is determined when futures contract is offset
- ☞ Transaction costs do exist and margin calls are possible

### ! Minimum Price Contract

- ☞ Establishes a floor price and allows the opportunity to benefit from rising prices

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# Knowing and Managing Grain Basis

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## Diagram of Basic Forward Pricing Decision

		Basis	
		Acceptable	Unacceptable
Futures Price	Acceptable	Forward Contract	Hedge
	Unacceptable	Basis Contract	Do Nothing