Agricultural Commodity Marketing: Futures, Options, Insurance

Grain Marketing & Storage Decisions

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Basis is the Key to Grain Marketing

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Alternatives

- Sell at Harvest
- Store on Cash Market
- Storage Hedge
- Basis Contract
- Sell at Harvest & Buy Futures
- Sell at Harvest & Buy a Call Option

Sell at Harvest

- Harvest Basis is Stronger than Normal
- You expect Prices to Decline
- You expect Prices to Increase but not to Cover your Storage Costs

Store on Cash Market

- Store Grain when Harvest Basis is Weaker than Normal
- Store Grain when you Expect a Price Increase to exceed Storage Costs
- Advantages
  - You have control of Grain
  - Take full advantage of Price Rally
- Disadvantages
  - Cost of Storage
  - Grain Quality can Deteriorate
  - Interest on Grain

Market Situation

- Harvest Basis is frequently weaker than basis at other times of the year
  - Large supply coming to the market
- Price Improvement (futures expectations) often will be less than the total cost of storing grain (particularly if you are paying commercial storage)

Futures Expectations Example 1 Aug 20XX

KCBT Wheat	Price
Sep	$5.00
Dec	$5.10
Mar	$5.16
May	$5.20

- Expect $.03/bushel/month Storage Cost

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Storage Hedge

- Store Grain
- Sell deferred futures contract
- Profit from Storage =

  Basis Improvement – Storage Costs
- Basis Improvement =

  Closing Basis – Opening Basis
- Closing Basis = Expected Basis when grain will be sold
- Opening Basis = Current Cash – deferred Futures

Storage Hedge Example

- Ogden Wheat Price Jul 16, 2006 $4.47
- KCBT Jul Wheat $5.00
- Harvest Basis -$0.53
- Typical Harvest Basis -$0.30
- Not a good time to sell wheat
- KCBT Dec Wheat on Jul 16 $5.17
- Opening Basis = $4.47-$5.17 = -$0.70
- Expected Closing Basis = -$0.20
- Basis Improvement = $0.50
- Storage Costs = $0.16
- Expected Profit =$0.50 - $0.16 = $0.34

Storage Hedge Example

Date	Cash	Futures	Basis
7/16	Cash Wheat $4.47 Storage .16 Break-even $4.63	Sell KCBT Wheat For $5.17	Opening Basis -$0.70
11/13	Sell Wheat For $4.83	Buy KCBT Wheat For $5.08	Closing Basis -$0.25
	+$0.20	+$0.09	+$0.45

Profit = Basis Improvement – Storage
= $0.45 - $0.16 = $0.29

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If Narrow Basis at Harvest Storage Hedge Not Profitable

- Sell Cash
- Basis Contract
- Sell Grain & Buy Futures
- Sell Grain & Buy a Call

Basis Contract

- Deliver grain to elevator. Price is tied to a deferred futures contract with an agreed upon basis (producer usually get 75% of value of grain)
- Features of Basis Contract
  - Most storage costs are eliminated
  - Buyer gets grain, producer loses control
  - Benefits buyer and seller when buyer needs grain now but seller expects higher prices in the future
  - Producer is fully exposed to price risk
  - Buyer accepts basis risk

Sell Grain & Buy Futures

- Take advantage of narrow harvest basis by selling grain and benefit from a price rally in the futures.
- Attributes of this strategy
  - All storage costs are eliminated
  - Basis risk is eliminated
  - Producer is exposed to price risk in futures market
  - Producer is speculating on futures, not hedging
  - Producer exposed to Margin Calls

Sell Grain and Buy Futures Example Market Rallies

- Sell Wheat at Harvest in August for $4.50
- Expect Wheat Market to Rally
- In August, Dec KCBT Wheat is $5.20
- Buy Dec KCBT Wheat @ $5.20
- In November, Dec KCBT is at $5.70
- Sell Dec KCBT Wheat @$5.70
- Futures Gain = $.50
- Net Cash Price = $4.50 + .50 = $5.00

Sell Grain and Buy Futures Example Market DOES NOT Rally

- Sell Wheat at Harvest in August for $4.50
- Expect Wheat Market to Rally
- In August, Dec KCBT Wheat is $5.20
- Buy Dec KCBT Wheat @ $5.20
- In November, Dec KCBT is at $5.00
- Sell Dec KCBT Wheat @$4.80
- Futures Loss = $.40
- Net Cash Price = $4.50 - .40 = $4.10
- Potential Loss is not limited

Sell Grain & Buy a Call Option

- Take advantage of narrow harvest basis by selling grain and benefit from a price rally with the Call Option.
  - Call increases in value as the market rises
- Attributes of this strategy
  - All storage costs are eliminated
  - Basis risk is eliminated
  - Call Premium is often equal to cost of storage
  - Worst case, you lose the Call Premium
  - There are no Margin Calls

Sell Grain and Buy a Call Option Example Market Rallies

- Sell Wheat at Harvest in August for $4.50
- Expect Wheat Market to Rally
- In August, Dec KCBT Wheat is $5.20
- Buy $5.30 Dec KCBT Wheat Call @ $.12
- In November, Dec KCBT is at $5.70
- Sell $5.30 Dec KCBT Wheat Call @$.42
- Options Gain = $.30
- Net Cash Price = $4.50 + .30 = $4.80

Sell Grain and Buy Call Option Example Market DOES NOT Rally

- Sell Wheat at Harvest in August for $4.50
- Expect Wheat Market to Rally
- In August, Dec KCBT Wheat is $5.20
- Buy $5.30 Dec KCBT Wheat Call @ $.12
- In November, Dec KCBT is at $5.00
- Call Option Expires with $0 value
- Options Loss = $.12
- Net Cash Price = $4.50 - .12 = $4.38
- Potential Loss is limited to call Premium

Summary

- Strong Basis at Harvest
  - Do not expect rally — Sell at Harvest
  - Expect Rally — Basis Contract
  - — Sell Grain Buy Futures
  - — Sell Grain Buy Call
- Weak Basis at Harvest
  - — Storage Hedge