

## Grain Marketing Principles & Tools

### Cash Grain Basis, Forward Contracts, Futures & Options

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2008 K-State Risk Assessed Marketing Workshops

## Price Trend Effects

On Cash Sales & Forward Contracts



Pricing Alternatives	Falling Futures	Rising Futures	Wider Basis	Narrower Basis
Cash Market Sales	(-)	(+)	(-)	(+)
Forward Cash Contract	None	None	None	None
Basis Contract	(-)	(+)	None	None
Hedge-to-Arrive (HTA)	None	None	(-)	(+)
Minimum Price Contract	None	(+)	None	None
Price Later Contract	(-)	(+)	(-)	(+)

## Price Trend Effects

On Futures, Options & Marketing Loans

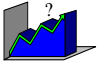


Pricing Alternatives	Falling Futures	Rising Futures	Wider Basis	Narrower Basis
Short Futures Hedge	None	None	(-)	(+)
Buy Put Options	None	(+)	(-)	(+)
Sell Cash & Buy Calls	None	(+)	None	None
Marketing Loans	None	(+)	(-)	(+)

## Risk Exposure of Marketing Tools

### A. Options Volatility Risk

- Risk that option premiums will not change 1-for-1 with cash/futures as the price level changes



### B. Production Risk if Pre-harvest Pricing

- Risk of being unable to deliver grain to fulfill a contract

### C. Counter Party Risk

- Risk that a buyer won't fulfill their contract obligations



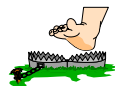
### D. Control Risk

- Risk of market actions getting "out of control" before corrective actions can be taken by the seller



## Areas of Risk Exposure

For Cash Sales & Forward Contracts



Pricing Alternatives	Options Volatility	Prod. Risk if Prehvst.	Counter Party Risk	Control Risk
Cash Market Sales	---	---	---	Yes
Forward Cash Contract	---	Yes	Yes	---
Basis Contract	---	Yes	Yes	Yes
Hedge-to-Arrive (HTA)	---	Yes	Yes	Yes
Minimum Price Contract	Yes	Yes	Yes	Yes
Price Later Contract	---	---	Yes	Yes

## Areas of Risk Exposure

For Futures, Options & Marketing Loans

Pricing Alternatives	Options Volatility	Prod. Risk if Prehvst.	Counter Party Risk	Control Risk
Short Futures Hedge	---	Yes	---	Yes
Buy Put Options	Yes	Yes	---	Yes
Sell Cash & Buy Calls	Yes	---	---	Yes
Marketing Loans	---	---	---	Yes



## Hedging With Futures

### ■ Price Hedges on Grain Production

- 1) **(Prehedge) Analyze hedging opportunity**
  - **Futures less Basis less Brokers' fees**
- 2) **(Placing the Hedge) Sell futures contract(s)** nearest to the grain delivery period
  - In a "Short" or "sell" futures position
- 3) **(Closing Out the Hedge Position)**
  - Buy back futures contract(s)
  - Sell cash grain (optional)



## Grain Forward Pricing Decisions

### ■ How Much to Forward Contract or Hedge?

- **For Pre-Harvest Pricing:**
  - Max of 50%-75% of expected production (*average yields*)
    - If have a short crop, use Crop Insurance Coverage revenues to help fill Forward Contract obligations
  - **Recommended:** A disciplined grain marketing plan

### ■ What Time Period to Set Grain Delivery In?

- Examine Harvest vs Post Harvest Basis, Storage Returns, and Grain Delivery Opportunities
- Timing of cash flow needs



## Forward Contract Vs Futures Hedge

### ■ If Basis Projection is Accurate, then..

- Forward Contract \$ = Futures Hedge \$



### ■ Who Carries the Futures Account?

- **FC:** Elevator contacts broker & pays any margin calls
- **Hedge:** Producer works w. broker, pays margin calls

### ■ Delivery Commitment?

- **FC:** Delivery commitment of X bushels for \$X price
- **Hedge:** No delivery commitment to elevator



### ■ Basis Commitment?

- **FC:** Set cash basis / **Hedge:** Varying cash basis

## New Crop July 2009 HRW Wheat

Examples for Friday, March 6, 2009

- KCBT July 2009 HRW Wheat Prices
- Seasonal Average Cash Price Trends
- Basis History (2005-2009)
- Futures Hedge & Forward Contract for Harvest Delivery
- Put & Call Option Premiums (3/6/09)

## Hard Red Winter Wheat Futures

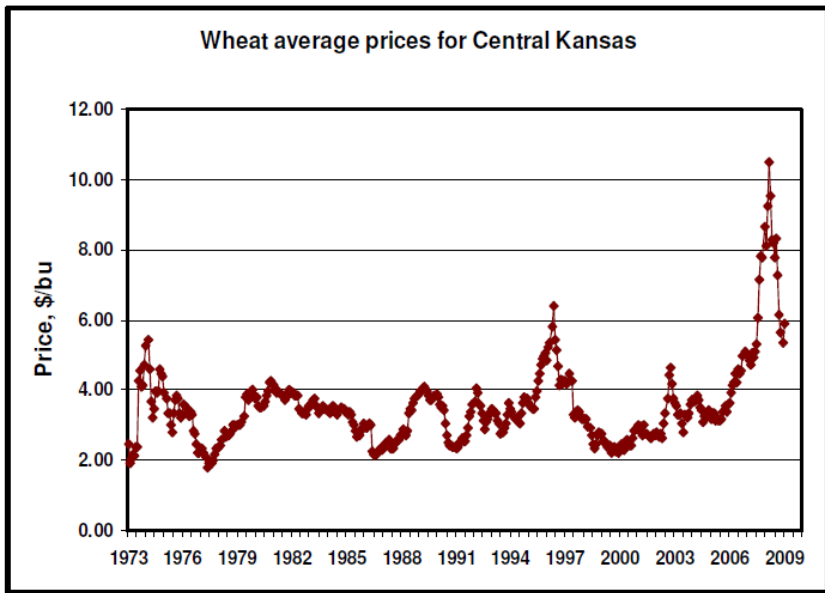
KCBT: 2000 through 2009



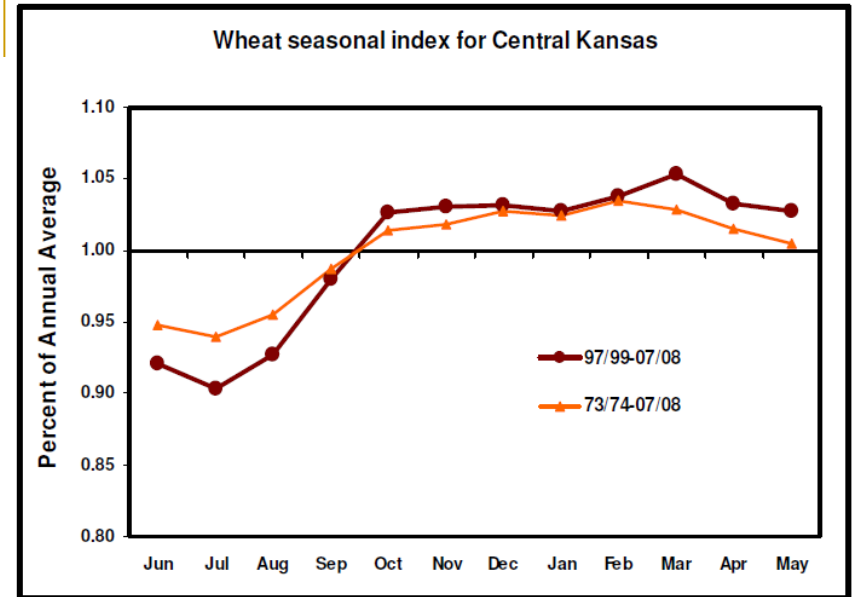
## KCBT JULY 2009 HRW Wheat

March 6, 2008 – March 6, 2009





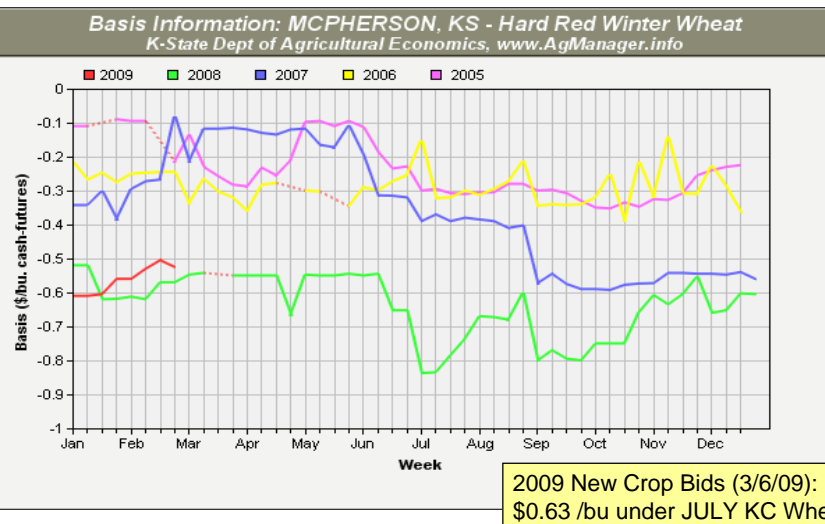
Source: Kevin Dhuyvetter, K-State



Source: Kevin Dhuyvetter, K-State

## Cash Wheat Basis: McPherson, KS

Years 2005-2009



## 2009 Preharvest Wheat Hedge

Hedging on Tuesday, March 6, 2009

- Target Sales Date: July 1, 2009
- Wheat Futures Price (3/6/09)
  - July '09 KCBT Wheat = \$5.81 1/4
- Expected Corn Basis (McPherson, KS)
  - \$0.63 under JULY KCBT Wheat on July 1<sup>st</sup>
- **2009 Wheat Hedge Expected Price = \$5.18 /bu**
  - JULY KCBT Wheat – Basis – Broker's Fees
  - **\$5.81 - \$0.63 - \$0.01 = \$5.18**

## New Crop Wheat Hedge Example

### Scenario A: Falling Wheat Prices into 2009 Harvest

Date	Cash	Futures	Basis
Expt. \$: <b>\$5.18</b> (\$5.81 - 0.63*) By July 1, 2009			
On 3/6/09	No Cash Transactions	On 3/6/09 Sell JULY 09 @\$5.81	Expt (\$0.63)
On 7/1/09	<b>Sell Cash Wheat @ \$3.68</b>	On 7/1/09 Buy JULY 09 @\$4.31	Actual (\$0.63)
		<b>Net Gain/Loss on Futures:</b> Gain of \$1.50 /bu (\$0.01 broker fee)	
<b>Final Net Price = \$5.18 /bu</b> Cash \$3.68 + \$1.50 Futures Gain			

## New Crop Wheat Hedge Example

### Scenario B: Rising Wheat Prices into 2009 Harvest

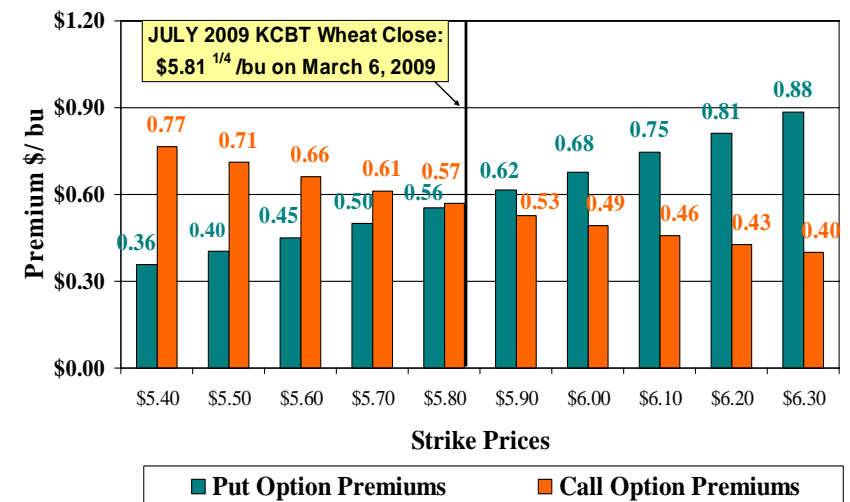
Date	Cash	Futures	Basis
Expt. \$: <b>\$5.18</b> (\$5.81 - 0.63*) By July 1, 2009			
On 3/6/09	No Cash Transactions	On 3/6/09 Sell JULY 09 @\$5.81	Expt (\$0.63)
On 7/1/09	<b>Sell Cash Wheat @ \$6.68</b>	On 7/1/09 Buy JULY 09 @\$7.31	Actual (\$0.63)
		<b>Net Gain/Loss on Futures:</b> Loss of \$1.50 /bu (\$0.01 broker fee)	
<b>Final Net Price = \$5.18 /bu</b> Cash \$6.68 - \$1.50 Futures Loss			

## 2009 NC Wheat Forward Contract

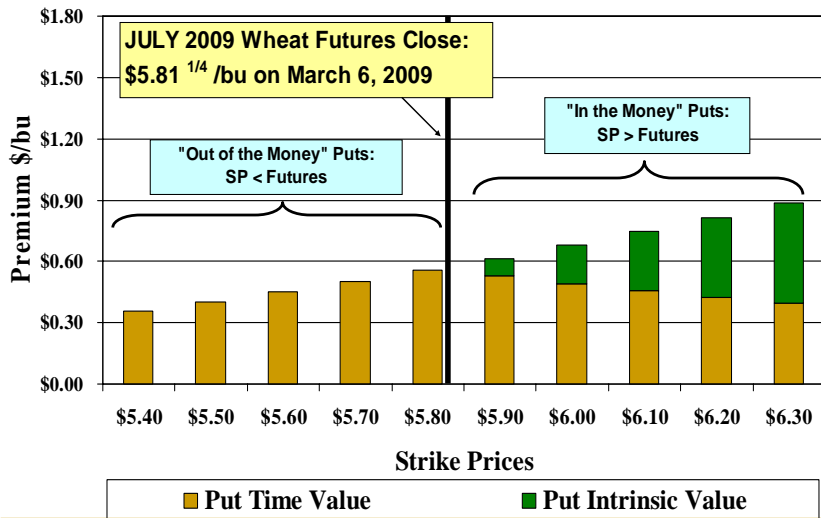
### McPherson, Kansas



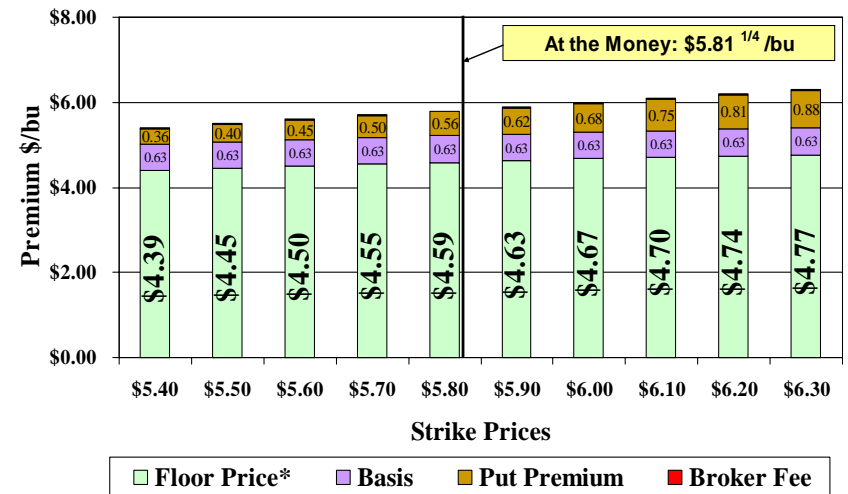
## JULY '09 HRW Wheat Put-Call Option \$



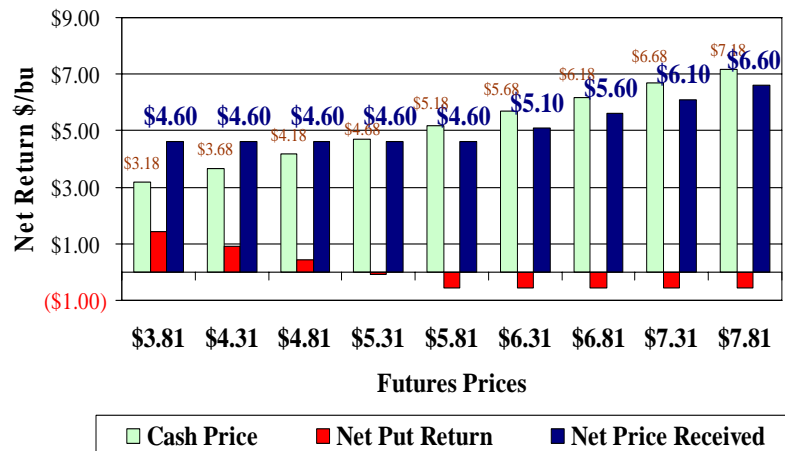
## 2009 JULY Wheat Put Option Values



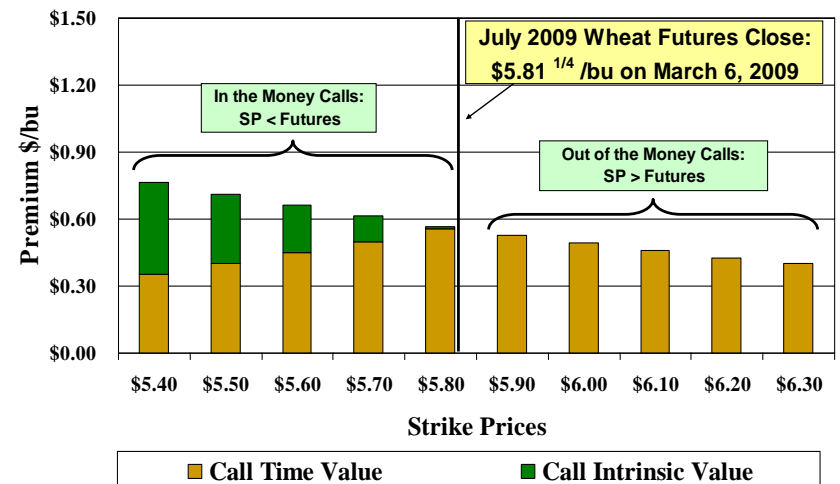
## 2009 JULY KC Wheat Put Price Floors



## Results of Buying a \$5.80 July Wheat Put Option @ \$0.55 <sup>1</sup>/<sub>2</sub> /bu

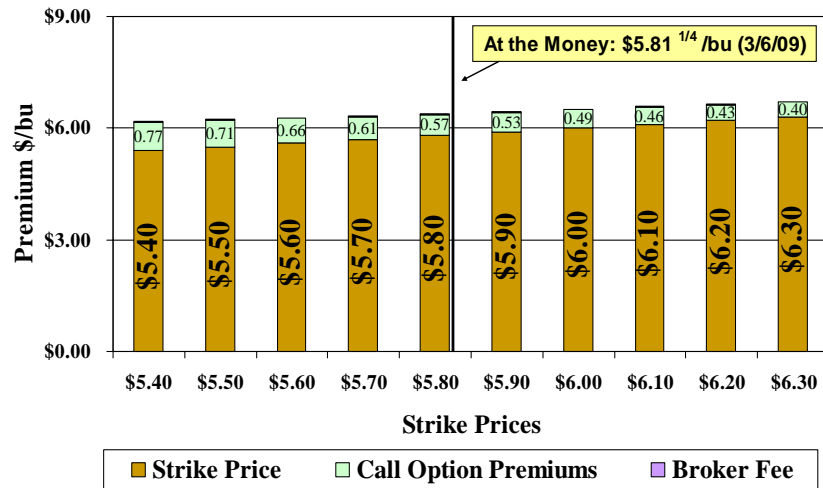


## July 2009 Wheat Call Option Values

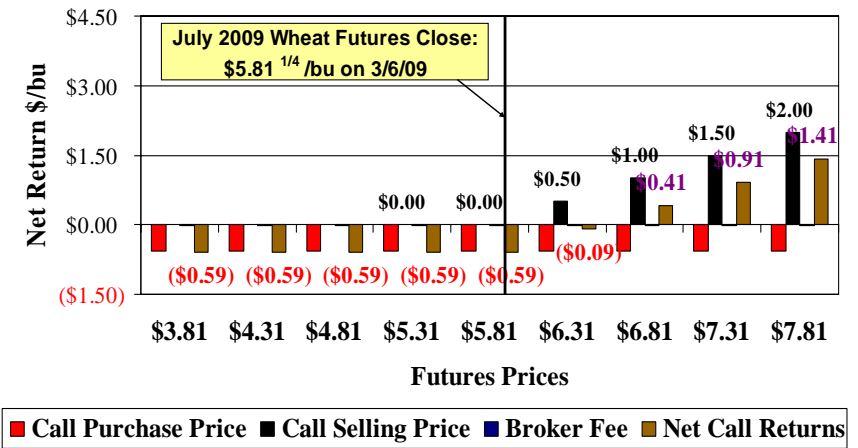


## JULY '09 KC Wheat Call Price Coverage

Minimum Price Increase Needed to Cover Call Premium Cost



## Results of Buying a \$5.80 JULY 2009 Wheat Call Option @ \$0.56 3/4 /bu



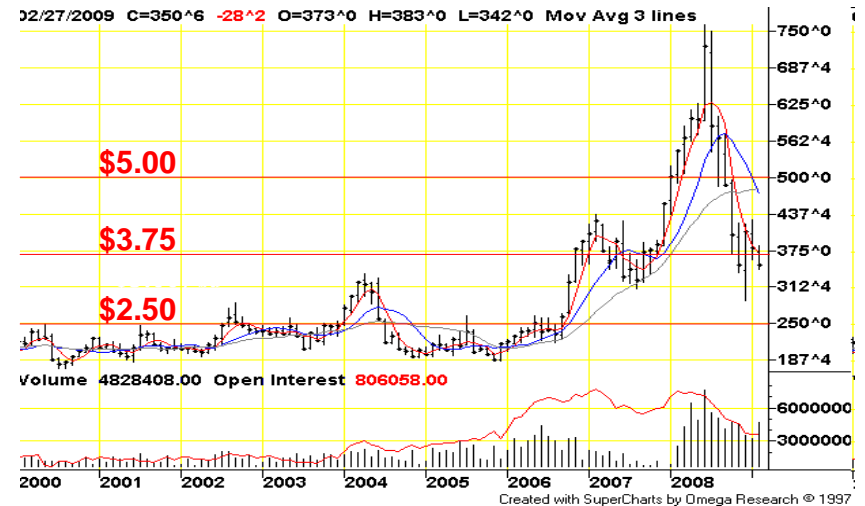
## New Crop DEC 2009 Corn

Examples for March 6, 2009

- CBOT DEC 2009 Corn Futures Prices
- Seasonal Average Cash Price Trends
- Basis History (2005-2009)
- Futures Hedge & Forward Contract for Harvest Delivery
- Put & Call Option Premiums (3/6/09)

## Corn Futures

CBOT: 2000 through 2009

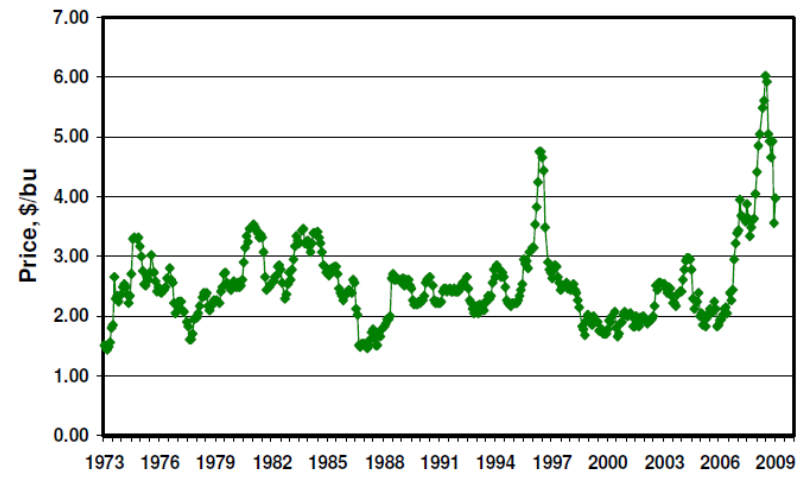


# CBOT DEC 2009 Corn

March 6, 2008 – March 6, 2009

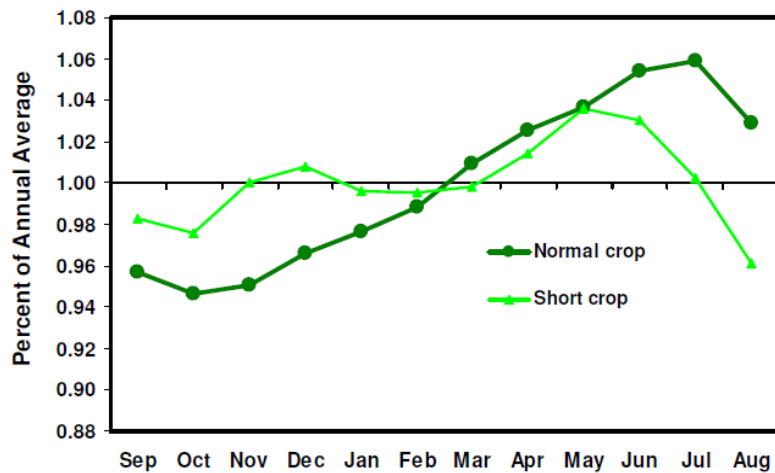


## Corn average prices for Central Kansas



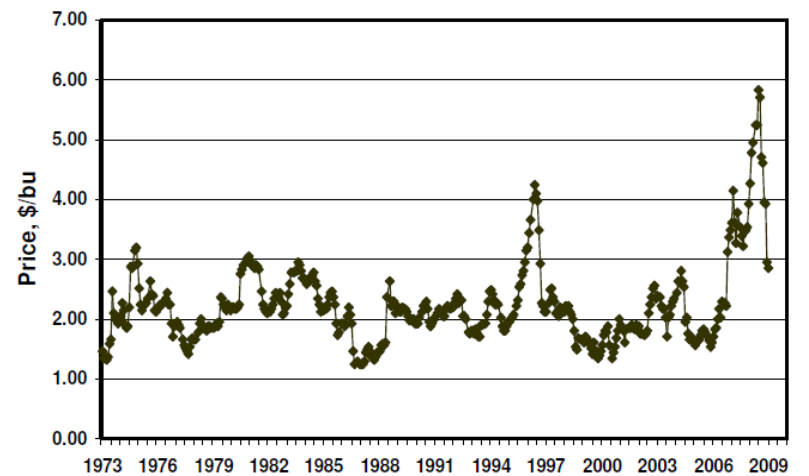
Source: Kevin Dhuyvetter, K-State

## Corn seasonal index for Central Kansas



Source: Kevin Dhuyvetter, K-State

## Milo average prices for Central Kansas

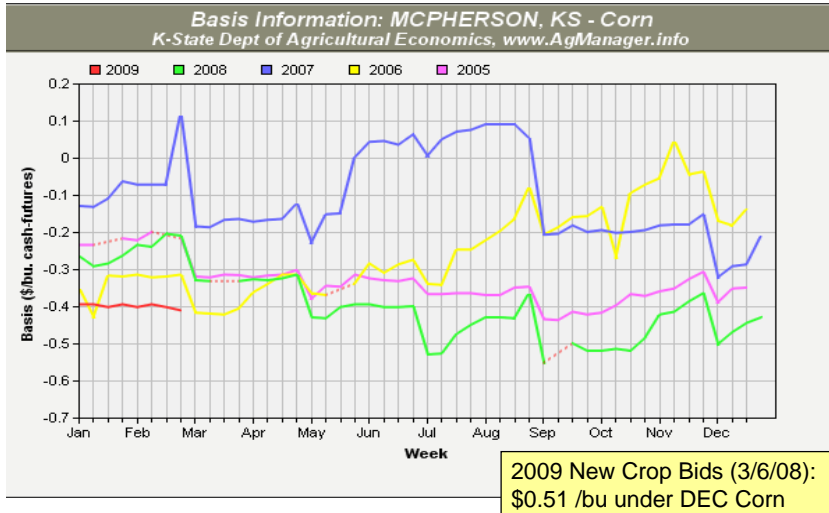


Source: Kevin Dhuyvetter, K-State



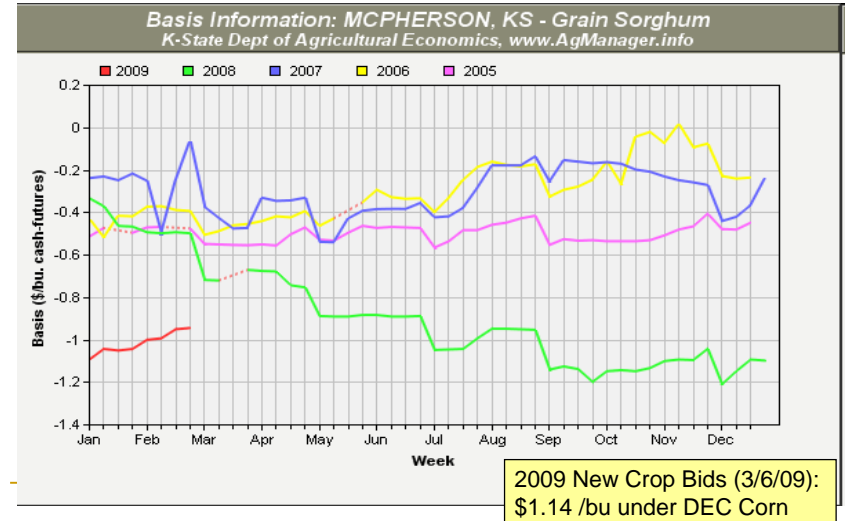
## Cash Corn Basis: McPherson, KS

Years 2005-2009



## Cash Milo Basis: McPherson, KS

Years 2005-2009



## 2008 Preharvest Corn Hedge

*Hedging on Tuesday, March 6, 2009*

- **Target Sales Date: November 15, 2008**
- **Corn Futures Price (3/6/09)**
  - December '09 CBOT Corn = \$3.90 3/4
- **Expected Corn Basis (McPherson, KS)**
  - \$0.51 under DEC CBOT Corn on November 15<sup>th</sup>
- **2009 Corn Hedge Expected Price = \$3.<sup>39</sup>/bu**
  - DEC 09 CBOT Corn – Basis – Broker's Fee
  - **\$3.<sup>91</sup> - \$0.<sup>51</sup> - \$0.<sup>01</sup> = \$3.<sup>39</sup>**

## New Crop Corn Hedge Example

*Scenario A: Falling Corn Prices into 2009 Harvest*

Date	Cash	Futures	Basis
Expt. \$: <b>\$3.39</b> (\$3.91 - 0.52*)			
By November 15, 2009			
On 3/6/09		On 3/6/09	Expt
No Cash Transactions		Sell DEC 09 @\$3.91	(\$0.52)
On 11/15/09		On 11/15/09	Actual
<b>Sell Cash Corn @ \$1.89</b>		Buy DEC 08 @\$2.41	(\$0.52)
		<b>Net Gain/Loss on Futures:</b>	
		Gain of \$1.50 /bu	

**Final Net Price = \$3.39 /bu**  
Cash \$1.89 + \$1.50 Futures Gain

# New Crop Corn Hedge Example

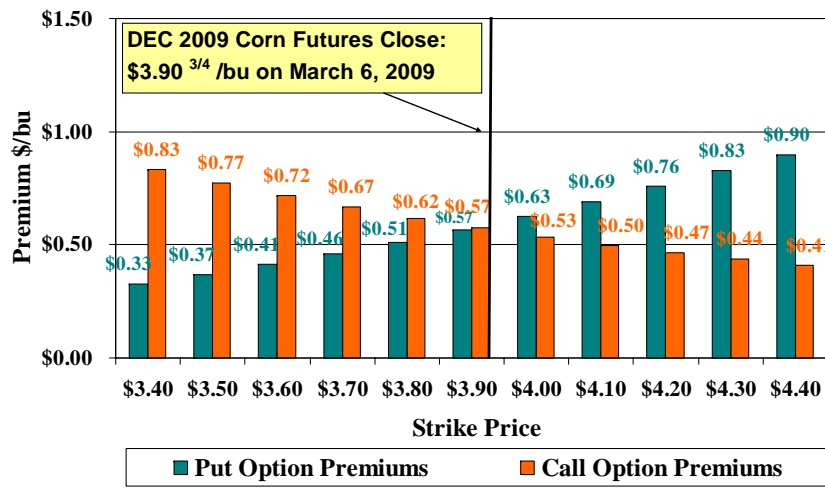
*Scenario B: Rising Corn Prices into 2009 Harvest*

Date	Cash	Futures	Basis
Expt. \$: <b>\$3.39</b> (\$3.91 - 0.52*) By November 15, 2008			
On 3/6/09 No Cash Transactions		On 3/6/09 Sell DEC 09 @ \$3.91	Expt (\$0.52)
On 11/15/09 <b>Sell Cash Corn @ \$4.89</b>		On 11/15/09 Buy DEC 09 @ \$5.41	Actual (\$0.52)
		<b>Net Gain/Loss on Futures:</b> Loss of \$1.50 /bu	
<b>Final Net Price = \$3.30 /bu</b> Cash \$4.89 – \$1.50 Futures Loss			

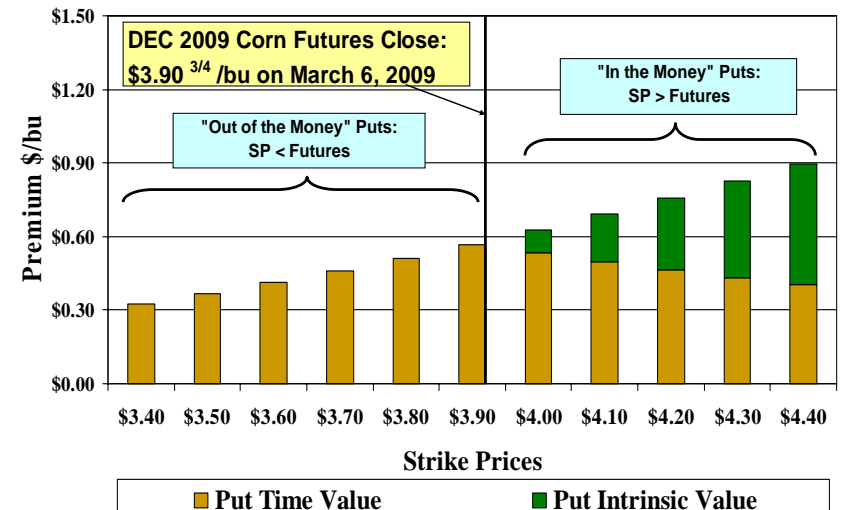
# 2009 New Crop Corn Forward Contract McPherson, Kansas



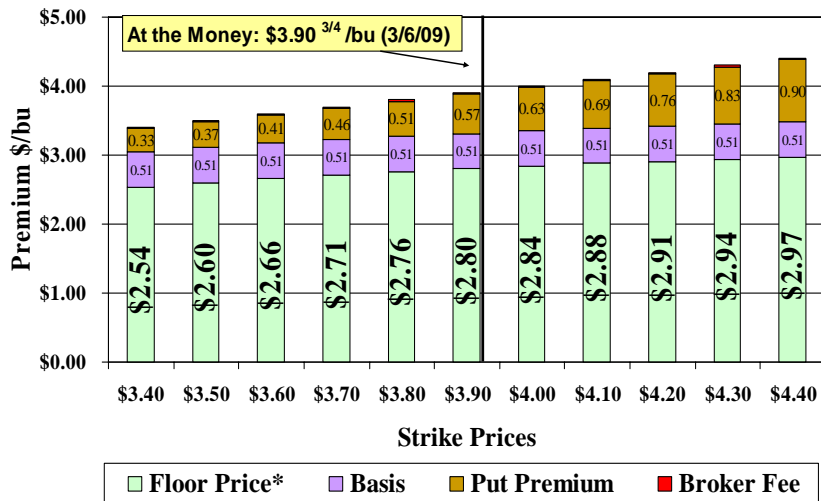
# DEC 2009 Corn Put-Call Option Prices



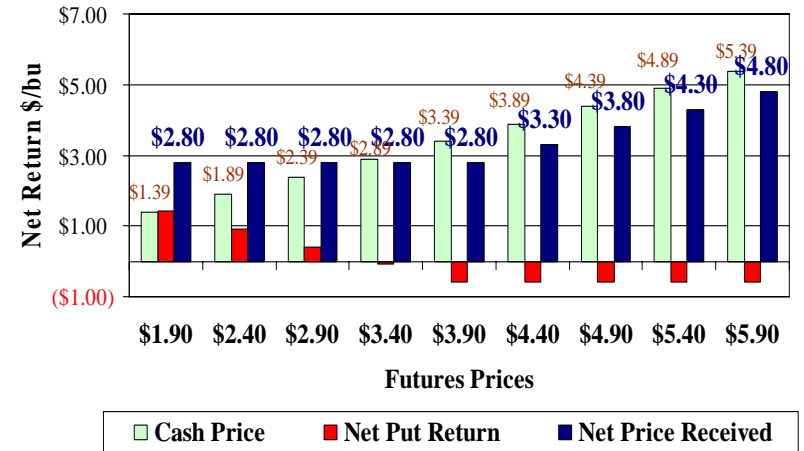
# DEC 2009 Corn Put Option Values



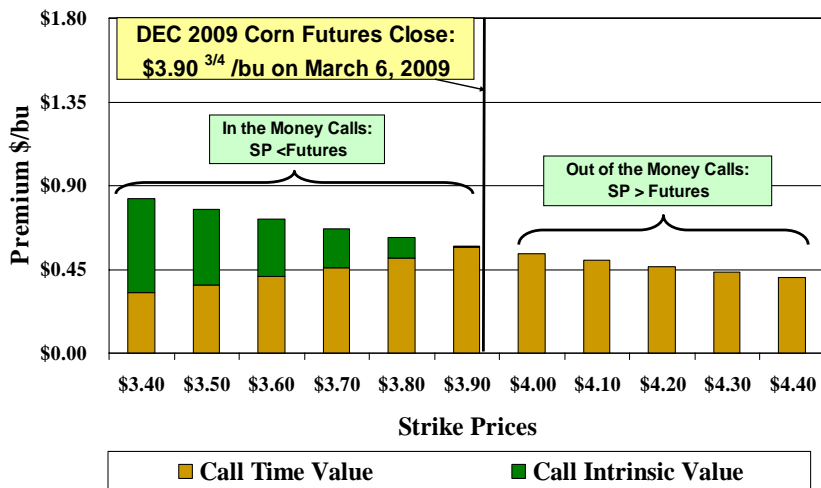
## DEC 2009 Corn Put Price Floors



## Results of Buying a \$3.90 DEC 2009 Corn Put Option @ \$0.56 5/8 /bu

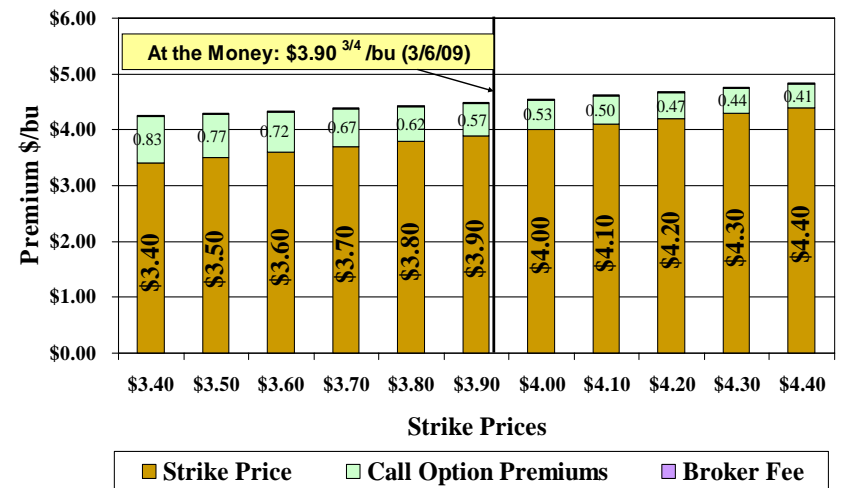


## DEC 2009 Corn Call Option Values

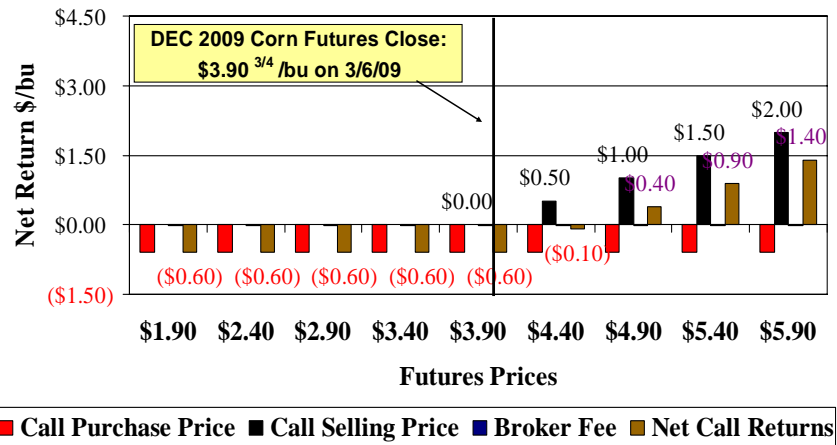


## DEC 2009 Corn Call Price Coverage

Minimum Price Increase Needed to Cover Call Premium Cost



## Results of Buying a \$3.90 DEC 2009 Corn Call Option @ \$0.57 <sup>3</sup>/<sub>8</sub> /bu



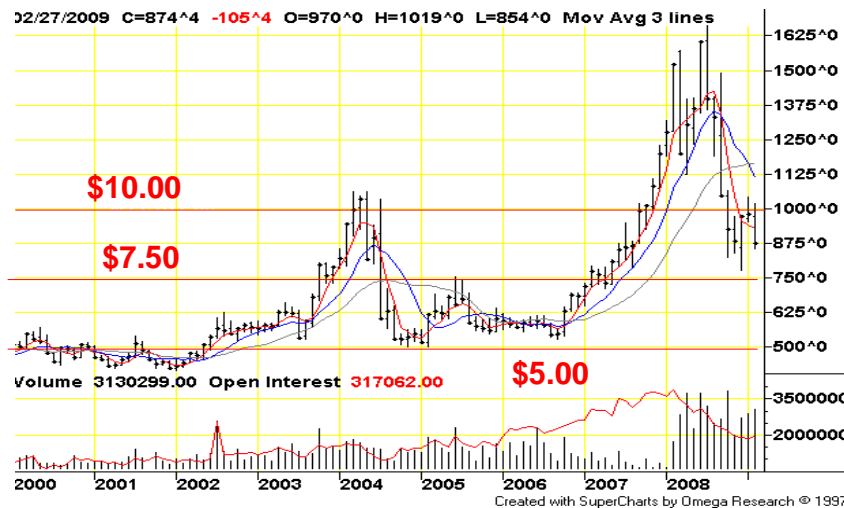
## New Crop NOV 2009 Soybeans

Examples for March 6, 2009

- CBOT NOV 2009 Soybean Futures Prices
- Seasonal Average Cash Price Trends
- Basis History (2005-2009)
- Futures Hedge & Forward Contract for Harvest Delivery
- Put & Call Option Premiums (3/6/09)

## Soybean Futures

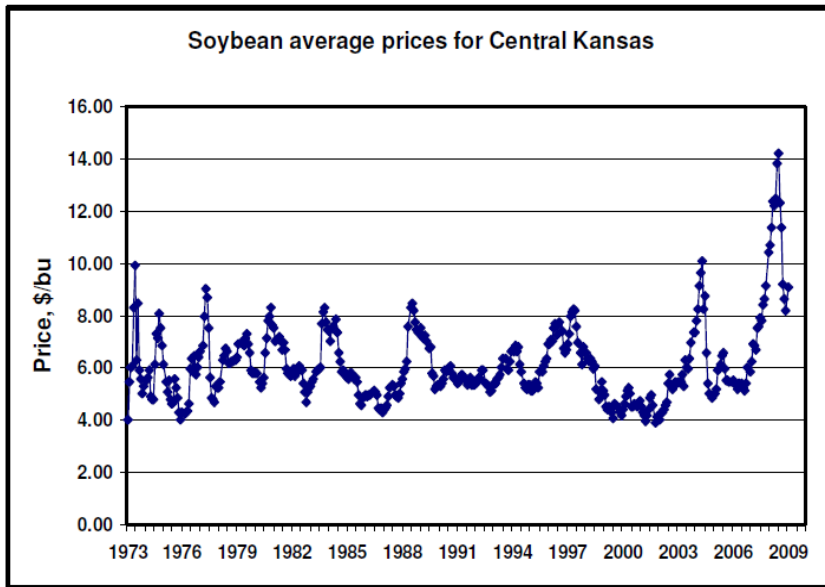
CBOT: 2000 through 2009



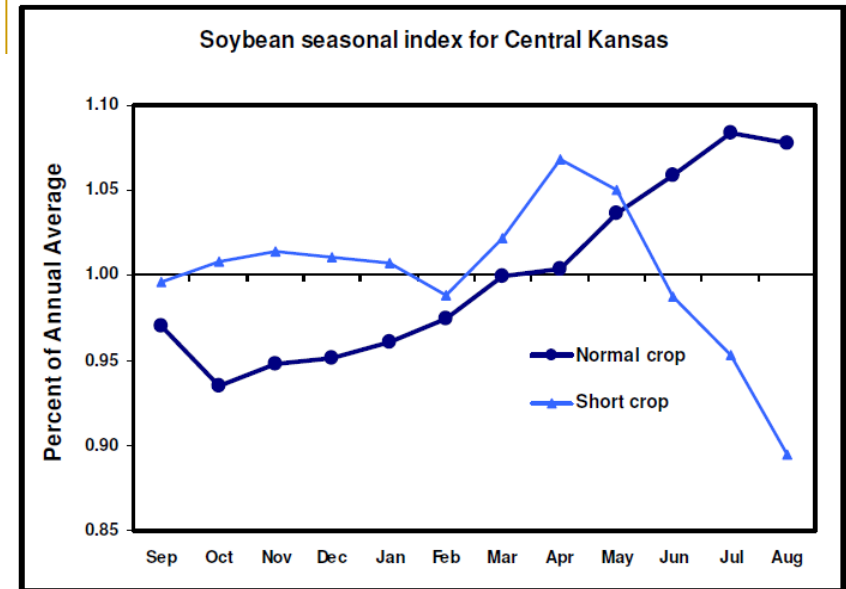
## CBOT NOV 2009 Soybeans

March 6, 2008 – March 6, 2009



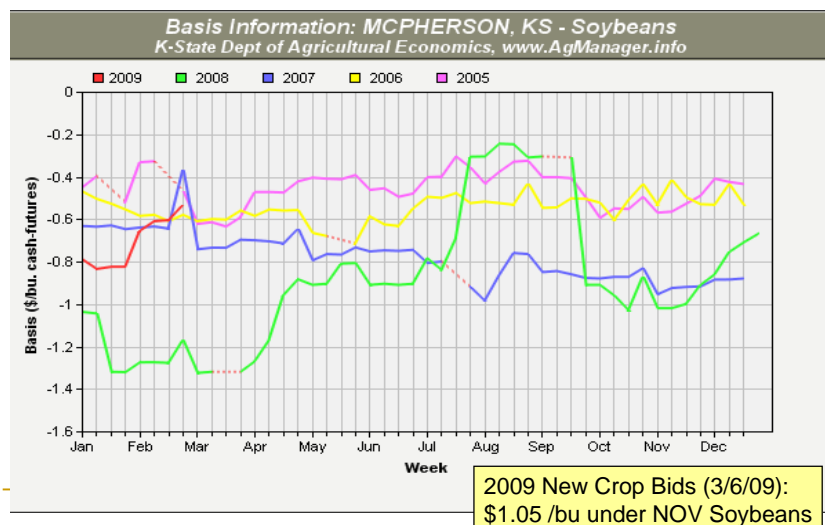


Source: Kevin Dhuyvetter, K-State



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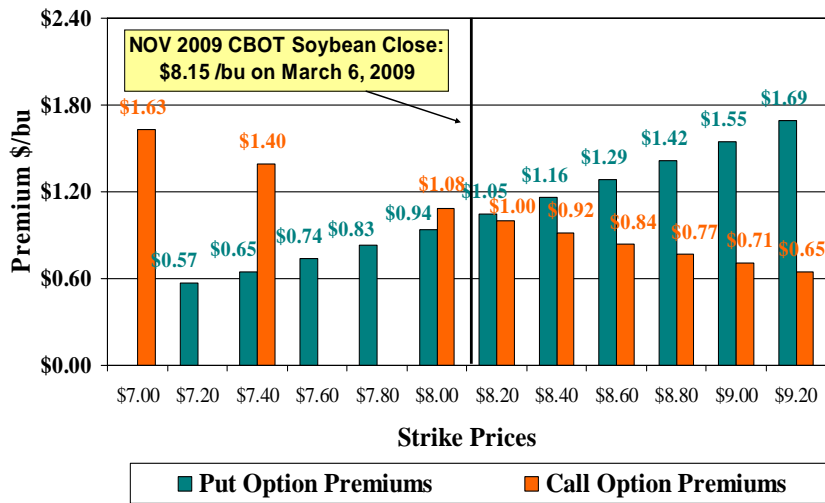
## Cash Soybean Basis: McPherson, KS Years 2005-2009



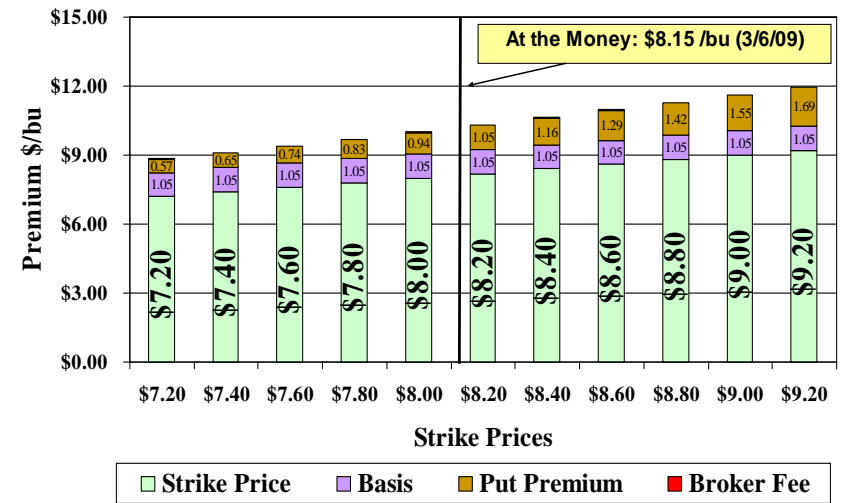
## 2009 NC Soybean Forward Contract McPherson, Kansas



## NOV '09 Soybean Put-Call Option \$s

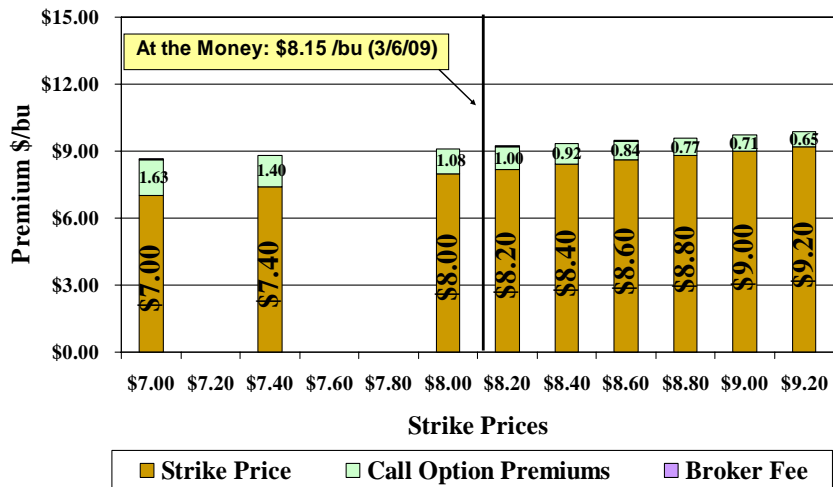


## NOV 2009 Soybean Put Price Floors



## NOV 2009 Soybean Call Price Coverage

Minimum Price Increase Needed to Cover Call Premium Cost



Questions or Comments?

K-State Agricultural Economics  
Department Website:

[www.Agmanager.Info](http://www.Agmanager.Info)