Performance of Hedges & Long Futures Positions in CBOT Corn

#### Goodland, Kansas

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# **CBOT Corn Futures**

Monthly: 2000 through 2009



#### **CBOT Corn Futures Price %'s**

Based on Option Premiums for May-09 & Dec-09

	May 2009 CBOT Corn	Dec 2009 CBOT Corn
Price on 2/25/2009	\$3.72	\$4.04
Low 10%	\$2.68	\$1.97
Low 30%	\$3.42	\$3.30
Middle 50%	\$3.63	\$3.83
High 70%	\$4.07	\$4.42
High 90%	\$5.07	\$7.54
Prob. Of \$ Falling	56%	59%

#### U.S. Corn Stocks/Use% vs Price 1973/74 - 2008/09 Mktg Yrs (Feb. 10, 2009 USDA WASDE)



#### Hard Red Winter Wheat Futures KCBT: 2000 through 2009



### KCBT Wheat Futures Price %'s

Based on Option Premiums for May-09 & July-09

Price on 2/25/2009	May 2009 KBOT Wheat <b>\$5.74</b>	July 2009 KBOT Wheat <b>\$5.81</b>
	\$4.49	
Low 10%		\$3.77
Low 30%	\$5.20	\$4.84
Middle 50%	\$5.67	\$5.68
High 70%	\$6.09	\$6.25
High 90%	\$6.81	\$7.65
<b>Prob. Of \$ Falling</b>	54%	57%





#### **CBOT** Soybean Futures Price %'s

Based on Option Premiums for May-09 & Nov-09

Price on 2/25/2009	May 2009 CBOT Soyb. <b>\$8.80</b>	Nov 2009 CBOT Soyb. <b>\$8.38</b>
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Low 10%	\$7.11	\$5.60
Low 30%	\$8.07	\$6.99
Middle 50%	\$8.73	<b>\$8.08</b>
High 70%	\$9.35	\$9.69
High 90%	\$10.48	\$16.33
Prob. Of \$ Falling	52%	55%

# U.S. Soybean Stocks/Use% vs Price

1973/74 - 2008/09 Mktg Yrs (Feb. 10, 2009 USDA WASDE)



#### Persistant Inelastic Demand Agricultural & Other Commodities

- Many Ag Commodities are produced on <u>Inelastic</u> parts of their Demand Curves
  - Supply is often constrained by policies, competition for limited resources, etc.
- Inelastic Price Revenue Relationship
  - As Price ①, Revenue ①
  - As Price ♣, Revenue ♣
- **Examples:** U.S. Grains, Livestock & Energy

## U.S. Corn Price Flexibility Example

**\$** Response to U.S. Corn Supply Changes



### What Determines Price Elasticity?

- Elastic Demand (%Δ Q<sub>Demand</sub> > %Δ Price)
  - <u>Many</u> close *substitutes*
  - Longer adjustment period
  - Commodity is a <u>large</u> expense item



- Inelastic Demand ( $^{0}\Delta Q_{Demand} < ^{0}\Delta Price$ )
  - <u>Few</u> acceptable *substitutes*
  - <u>Shorter</u> adjustment period
  - Commodity is a <u>smaller</u> expense item



### **Implications of Inelastic Demand**

#### Record High-Low Price Swings (Volatility)

Low Stocks/Use "pushed" grain markets into the Inelastic, highly Flexible regions of market demand



- $P_{Grains}$  responded to their own  $\mathcal{C}$  other grain's tight S/D prospects
- <u>Fall 2008</u>: Small--moderate ① Supply & ↓ Demand has helped cause a large ↓ in grain prices



#### Expect Market Volatility to Continue

Farm markets remain Inelastic with high Price Flexibility

# Performance of Corn Futures Pricing Strategies 1998-2008

- Hedges ("Short" or "Sell" positions)
- Sell Cash + Buy Futures ("Long" Positions)

### Corn Futures Pricing: 1998/1999

#### Hedging CBOT DEC 1998 Corn Futures

- Sell March 2, '98 Buy back Dec. 1, '98 (+\$0.64<sup>75</sup> /bu)
- Sell June 15, '98 Buy back Dec. 1, '98 (+\$0.24 /bu)

#### Buying CBOT JULY 1999 Corn Futures

- Buy Dec. 1, '98 Sell back July 1, '99 (-\$0.39 /bu)
- Buy March 1, '99 Sell back July 1, '99 (-\$0.14 /bu)



#### 1999 CBOT July Corn Futures July 20, 1998 – July 21, 1999



### Corn Futures Pricing: 1999/2000

#### Hedging CBOT DEC 1999 Corn Futures

- Sell March 1, '99 Buy back Dec. 1, '99 (+\$0.44<sup>75</sup> /bu)
- Sell June 15, '99 Buy back Dec. 1, '99 (+\$0.38 /bu)

#### Buying CBOT JULY 2000 Corn Futures

- Buy Dec. 1, '99 Sell back July 3, '00 (-\$0.33<sup>50</sup> /bu)
- Buy March 1, '00 Sell back July 3, '00 (-\$0.49 /bu)

#### 1999 CBOT DEC Corn Futures December 21, 1998 – December 20, 1999





### Corn Futures Pricing: 2000/2001

#### Hedging CBOT DEC 2000 Corn Futures

- Sell March 1, '00 Buy back Dec. 1, '00 (+\$0.38<sup>50</sup> /bu)
- Sell June 15, '00 Buy back Dec. 1, '00 (+\$0.15<sup>75</sup> /bu)

#### Buying CBOT JULY 2001 Corn Futures

- Buy Dec. 1, '98 Sell back July 1, '99 (-\$0.45<sup>50</sup> /bu)
- Buy March 1, '99 Sell back July 1, '99 (-\$0.41<sup>25</sup> /bu)

### 2000 CBOT DEC Corn Futures

December 14, 1999 – December 14, 2000



#### 2001 CBOT July Corn Futures July 12, 2000 – July 14, 2001



### Corn Futures Pricing: 2001/2002

#### Hedging CBOT DEC 2001 Corn Futures

- Sell March 1, '01 Buy back Dec. 3, '01 (+\$0.41<sup>25</sup> /bu)
- Sell June 15, '01 Buy back Dec. 3, '01 (–\$0.00<sup>50</sup> /bu)

#### Buying CBOT JULY 2002 Corn Futures

- Buy Dec. 3, '01 Sell back July 1, '02 (-\$0.01<sup>25</sup> /bu)
- Buy March 1, '02 Sell back July 1, '02 (+\$0.17<sup>25</sup> /bu)

### 2001 CBOT DEC Corn Futures

December 13, 2000 - December 14, 2001



### 2002 CBOT July Corn Futures July 11, 2001 – July 12, 2002



### Corn Futures Pricing: 2002/2003

#### Hedging CBOT DEC 2002 Corn Futures

- Sell March 1, '02 Buy back Dec. 2, '02 (-\$0.08<sup>75</sup> /bu)
- Sell June 17, '02 Buy back Dec. 2, '02 (–\$0.15<sup>75</sup> /bu)

#### Buying CBOT JULY 2003 Corn Futures

- Buy Dec. 2, '02 Sell back July 1, '03 (-\$0.15 /bu)
- Buy March 3, '03 Sell back July 1, '03 (-\$0.07<sup>25</sup> /bu)



#### 2003 CBOT July Corn Futures July 15, 2002 – July 14, 2003



### Corn Futures Pricing: 2003/2004

#### Hedging CBOT DEC 2003 Corn Futures

- Sell March 3, '03 Buy back Dec. 1, '03 (–\$0.06<sup>25</sup> /bu)
- Sell June 16, '03 Buy back Dec. 1, '03 (–\$0.05<sup>25</sup> /bu)

#### Buying CBOT JULY 2004 Corn Futures

- Buy Dec. 1, '03 Sell back July 1, '04 (+\$0.01<sup>50</sup> /bu)
- Buy March 1, '04 Sell back July 1, '04 (-\$0.51<sup>50</sup> /bu)

#### 2003 CBOT DEC Corn Futures December 11, 2002 – December 12, 2003





### Corn Futures Pricing: 2004/2005

#### Hedging CBOT DEC 2004 Corn Futures

- Sell March 1, '04 Buy back Dec. 1, '04 (+\$1.05 /bu)
- Sell June 15, '04 Buy back Dec. 1, '04 (+\$0.92<sup>75</sup> /bu)

#### Buying CBOT JULY 2005 Corn Futures

- Buy Dec. 1, '04 Sell back July 1, '05 (-\$0.02 /bu)
- Buy March 1, '05 Sell back July 1, '05 (-\$0.10<sup>25</sup> /bu)

### 2004 CBOT DEC Corn Futures

December 15, 2003 – December 14, 2004



#### 2005 CBOT July Corn Futures July 13, 2004 – July 14, 2005



### Corn Futures Pricing: 2005/2006

#### Hedging CBOT DEC 2005 Corn Futures

- Sell March 1, '05 Buy back Dec. 1, '05 (+\$0.50<sup>75</sup> /bu)
- Sell June 15, '05 Buy back Dec. 1, '05 (+\$0.55<sup>25</sup> /bu)

#### Buying CBOT JULY 2006 Corn Futures

- Buy Dec. 1, '05 Sell back July 3, '06 (+\$0.15<sup>25</sup> /bu)
- Buy March 1, '06 Sell back July 3, '06 (-\$0.09 /bu)

### 2005 CBOT DEC Corn Futures

December 13, 2004 - December 14, 2005



#### 2006 CBOT July Corn Futures July 13, 2005 – July 14, 2006



### Corn Futures Pricing: 2006/2007

#### Hedging CBOT DEC 2006 Corn Futures

- Sell March 1, '06 Buy back Dec. 1, '06 (-\$0.50<sup>75</sup> /bu)
- Sell June 15, '06 Buy back Dec. 1, '06 (–\$0.55<sup>25</sup> /bu)

#### Buying CBOT JULY 2007 Corn Futures

- Buy Dec. 1, '06 Sell back July 2, '07 (-\$0.37 /bu)
- Buy March 1, '99 Sell back July 2, '07 (-\$0.78<sup>50</sup> /bu)



#### 2007 CBOT July Corn Futures July 12, 2006 - July 13, 2007



### Corn Futures Pricing: 2007/2008

#### Hedging CBOT DEC 2007 Corn Futures

- Sell March 1, '07 Buy back Dec. 3, '07 (+\$0.27<sup>25</sup> /bu)
- Sell June 15, '07 Buy back Dec. 3, '07 (+\$0.38<sup>25</sup> /bu)

#### Buying CBOT JULY 2008 Corn Futures

- Buy Dec. 1, '07 Sell back July 1, '08 (+\$2.96<sup>50</sup> /bu)
- Buy March 3, '07 Sell back July 1, '08 (+\$1.41<sup>25</sup> /bu)

# 2007 CBOT DEC Corn Futures



December 18, 2006 - December 14, 2007

#### 2008 CBOT July Corn Futures July 16, 2007 – July 14, 2008



### Corn Futures Pricing: 2008/2009

#### Hedging CBOT DEC 2008 Corn Futures

- Sell March 3, '08 Buy back Dec. 2, '08 (+\$2.43<sup>50</sup> /bu)
- Sell June 16, '08 Buy back Dec. 2, '08 (+\$4.32<sup>50</sup> /bu)

#### Buying CBOT JULY 2009 Corn Futures

- Buy Dec. 1, '08 (\$3.70<sup>75</sup>)– Sell back July 1, '09 ?????
- Buy March 1, '09 (≈\$3.55)– Sell back July 1, '09 ?????

### 2008 CBOT DEC Corn Futures

December 17, 2007 – December 12, 2008



#### 2009 CBOT July Corn Futures February 27, 2008 – February 28, 2009







#### July Corn Long Position Performance 1999-2008



# Questions???

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