

Agricultural Marketing Options

Kevin C. Dhuyvetter
kcd@ksu.edu -- 785-532-3527
Department of Agricultural Economics
Kansas State University



Winter Farm Series 2009
Farm Management Meeting
First United Methodist Church
Hiawatha, KS. February 12, 2009.



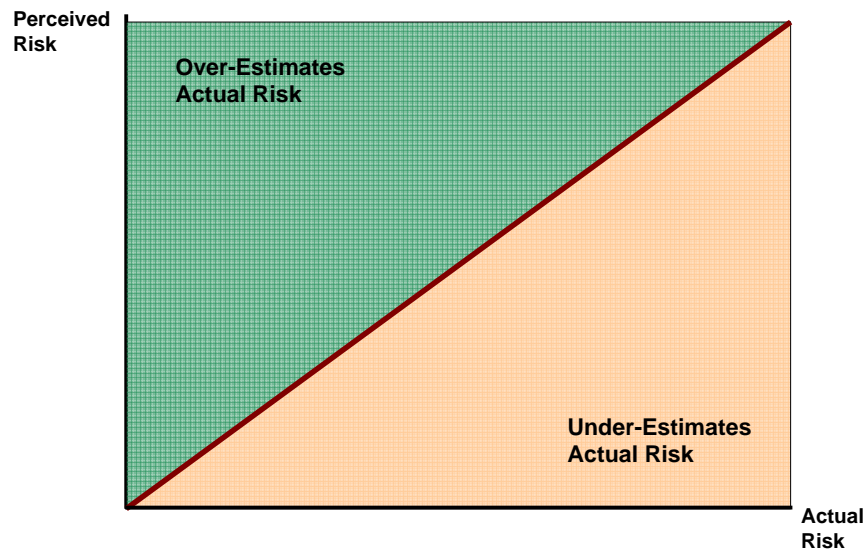
Two Manager Attributes Affect Risk Management Strategy Employed

1. RISK Perception
2. RISK Attitude or Aversion Level

-- Together determine how manager deals with risk

2

Perceived versus actual risk...



3

Cash price = Futures price + Basis

Marketing Alternatives/Options...

1. Do nothing
2. Lock in price (flat price)
3. Lock in floor price
4. Lock in basis
5. Various combinations

Which alternative you choose will depend on your perception of risk, your aversion to risk, your market outlook, as well as other factors...

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CBOT corn futures prices (2-6-09) ...

Futures Detail

Refresh 2

More Info	Month	Last	Chg	Open	High	Low	Volume	Open Int	Trade Time
chart options	Mar-09	377'2s	6'0	375'4	380'4	371'4	119519	276348	02/06/09 13:39
chart options	May-09	387'4s	6'0	385'0	391'0	382'0	46482	170004	02/06/09 13:39
chart options	Jul-09	397'6s	6'2	395'4	400'6	392'4	24272	141003	02/06/09 13:39
chart options	Sep-09	408'4s	7'0	405'2	410'0	405'2	2842	32689	02/06/09 13:39
chart options	Dec-09	421'6s	6'4	418'4	423'4	416'2	15674	159740	02/06/09 13:39
chart options	Mar-10	435'4s	6'4	432'4	437'0	430'0			
chart options	May-10	442'4s	6'2	444'2	444'2	443'4			
chart options	Jul-10	448'2s	6'4	447'0	447'0	447'0			
chart options	Sep-10	442'6s	5'6	---	---	---			
chart options	Dec-10	438'6s	6'4	438'4	439'0	437'0			
chart options	Jul-11	457'6s	6'0	---	---	---			
chart options	Dec-11	447'6s	5'4	449'0	449'0	445'4			

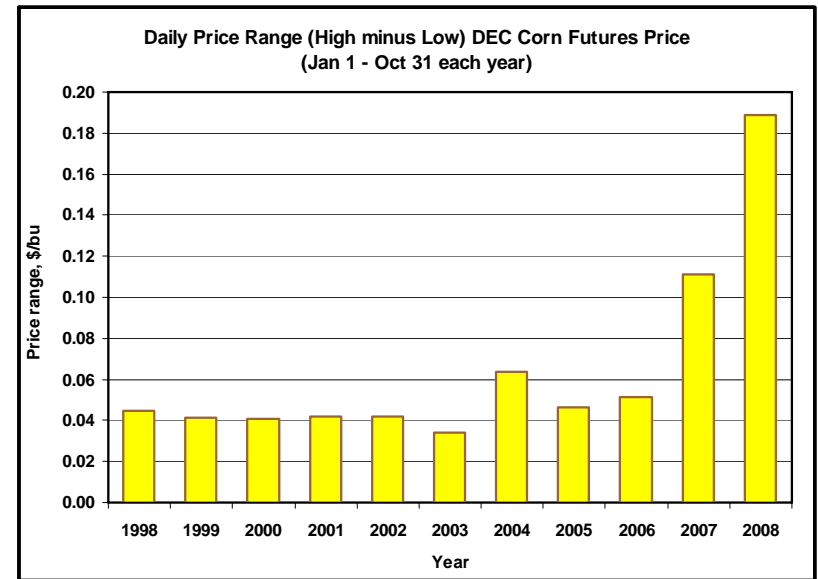
Dec-09 is trading at \$4.21 3/4

This is the market's forecast as to what prices will be. How much confidence do we have in this forecast?

- What is the probability price will be \$4.02 to \$4.42 (+/- \$0.20) in late Nov?
- What is the probability price will be \$3.62 to \$4.82 (+/- \$0.60) in late Nov?
- What is the probability price will be < \$3.22 (down \$1.00) in late Nov?
- What is the probability price will be > \$5.22 (up \$1.00) in late Nov?

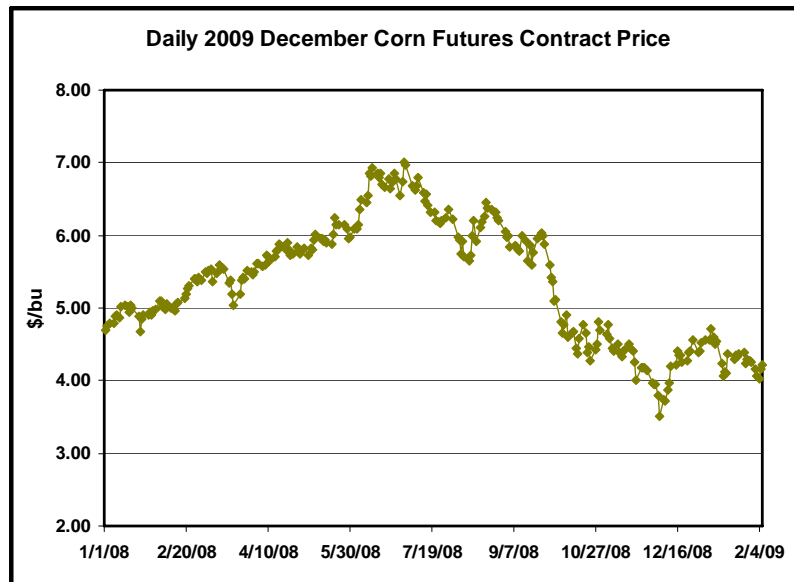
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Daily corn price moves have increased significantly ...



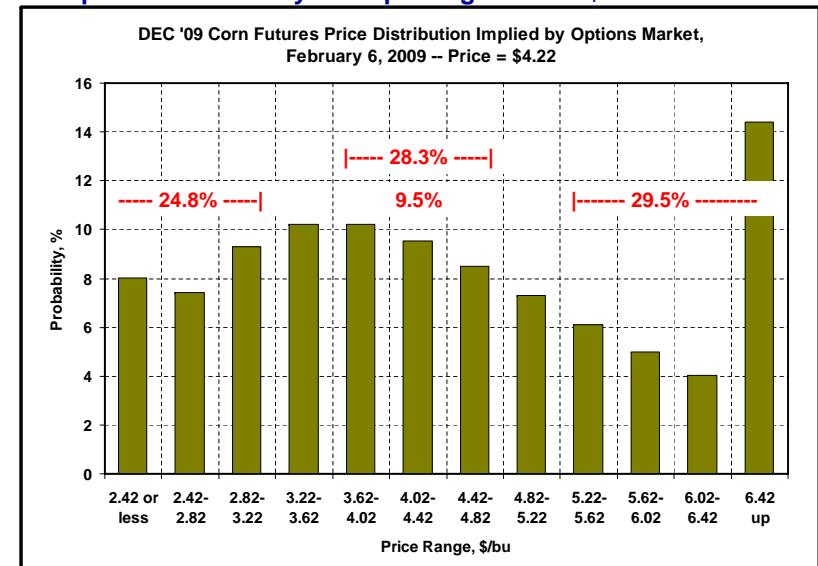
6

Current forecast is for \$4.22 corn (futures) next fall...



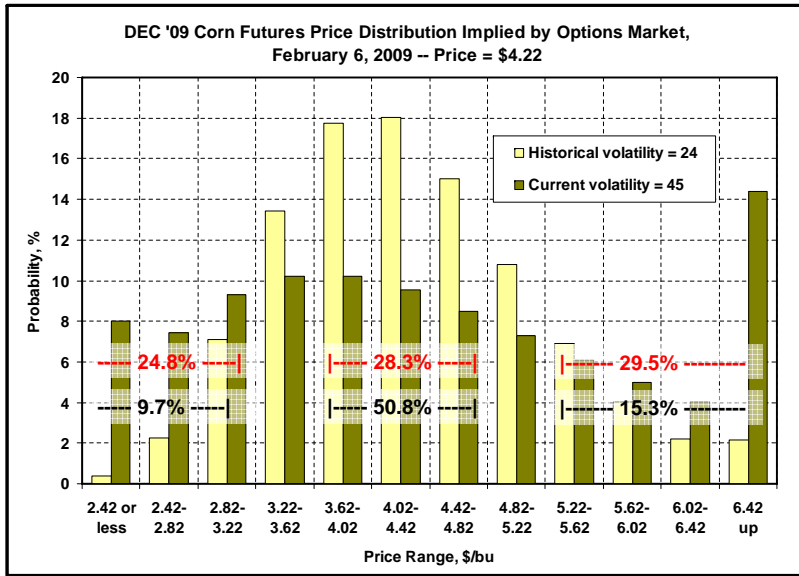
7

While \$4.22 might be our best guess, we have little confidence that prices will actually end up being close to \$4.22

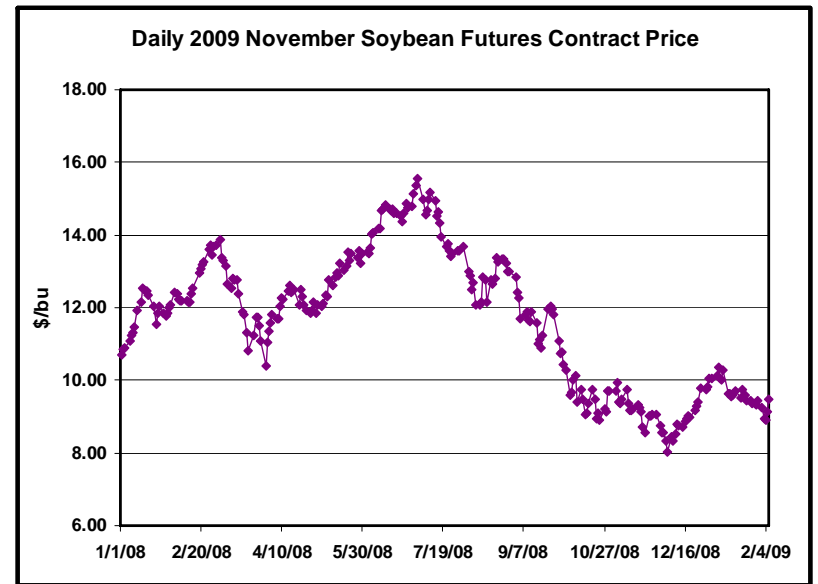


8

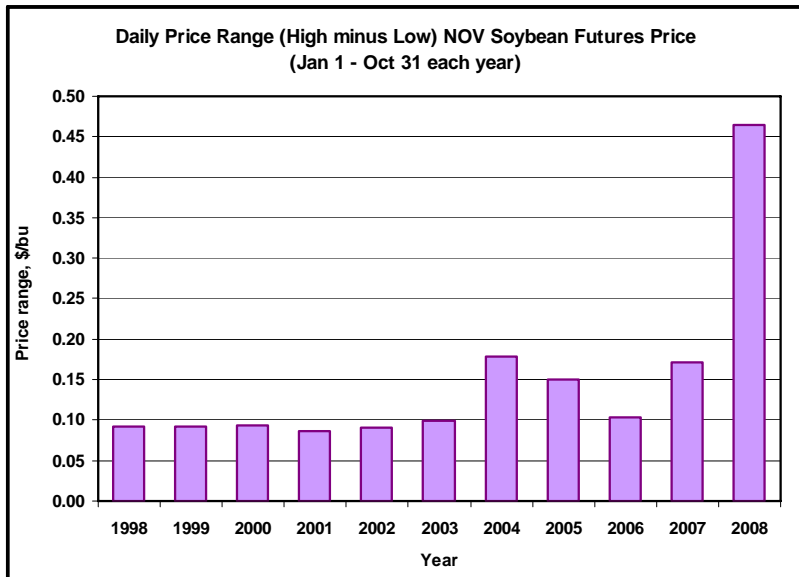
Options market volatility suggests considerable risk exists...



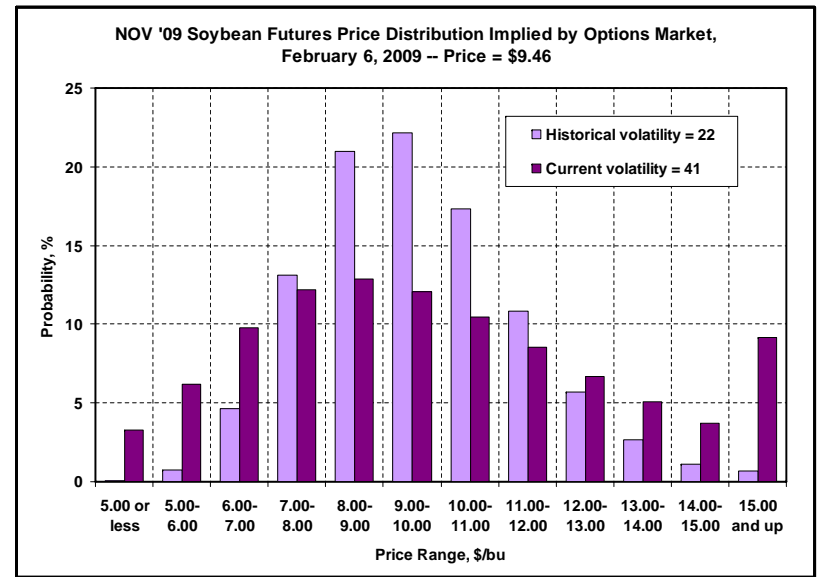
Current forecast is for \$9.46 soybeans (futures) next fall...



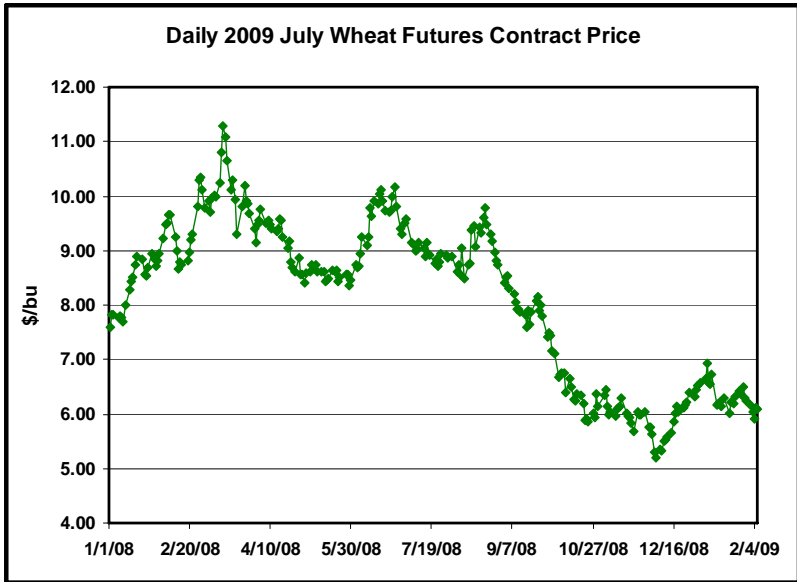
Daily soybean price moves have increased significantly ...



Options market volatility suggests considerable risk exists...

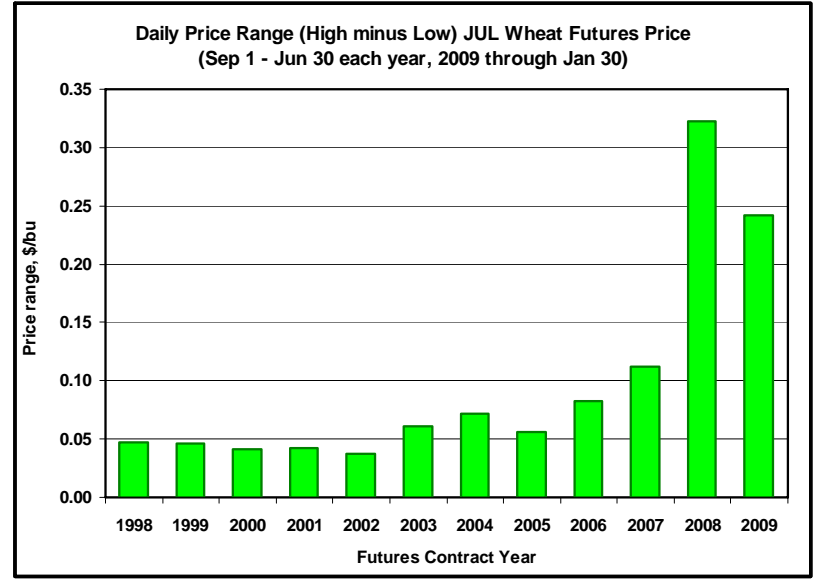


Current forecast is for \$6.09 wheat (futures) this summer fall...



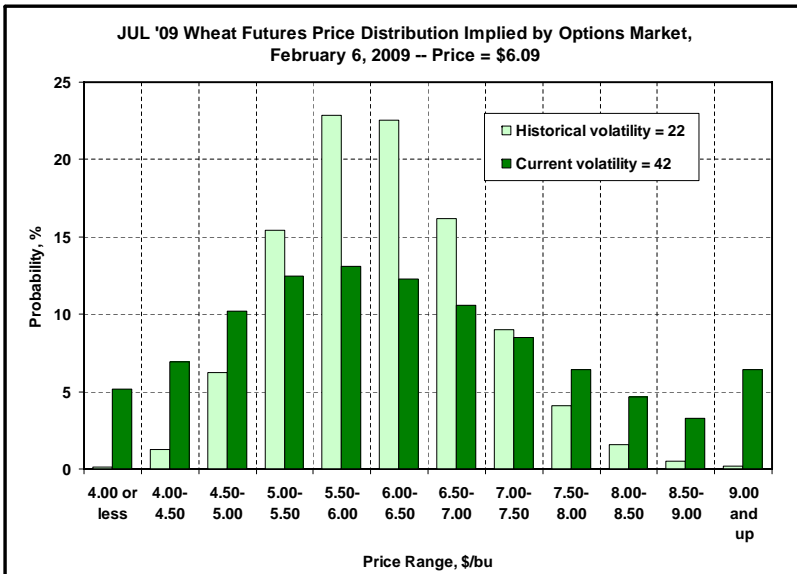
13

Daily wheat price moves have increased significantly ...



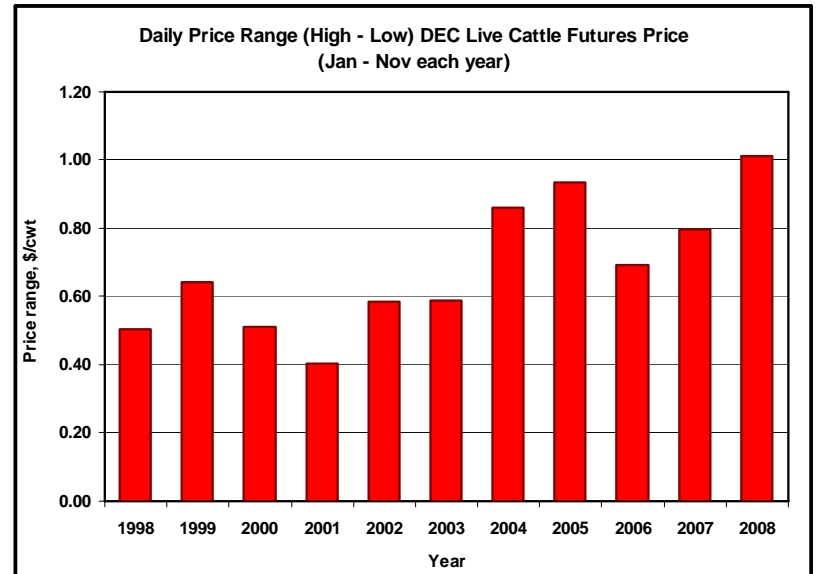
14

Options market volatility suggests considerable risk exists...



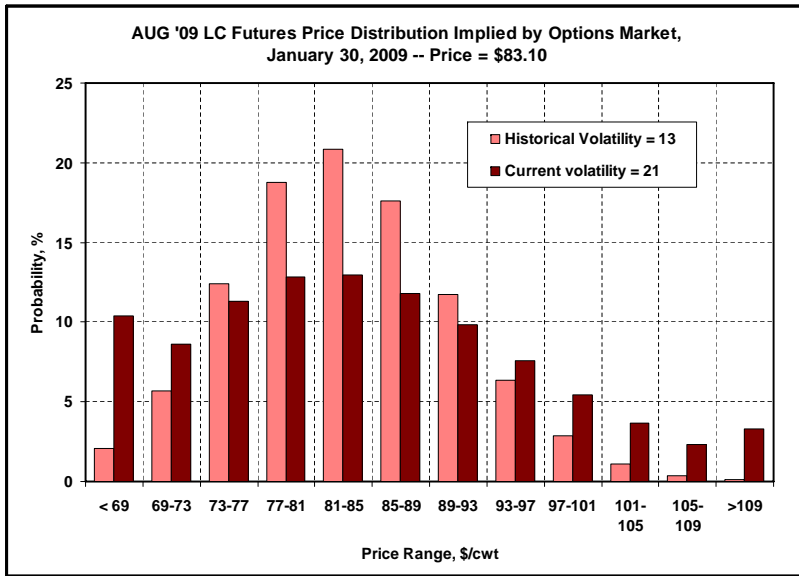
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Daily fed cattle price fluctuations are high, but increases are nothing like grain markets ...

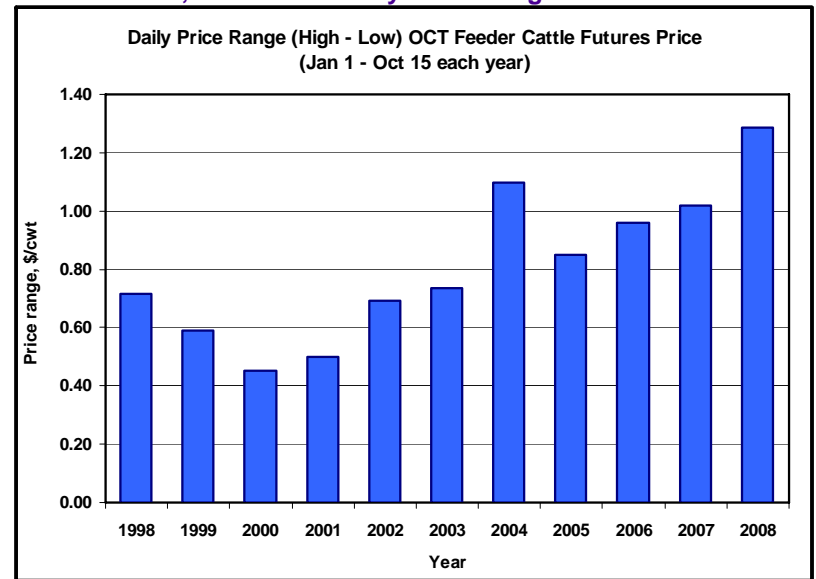


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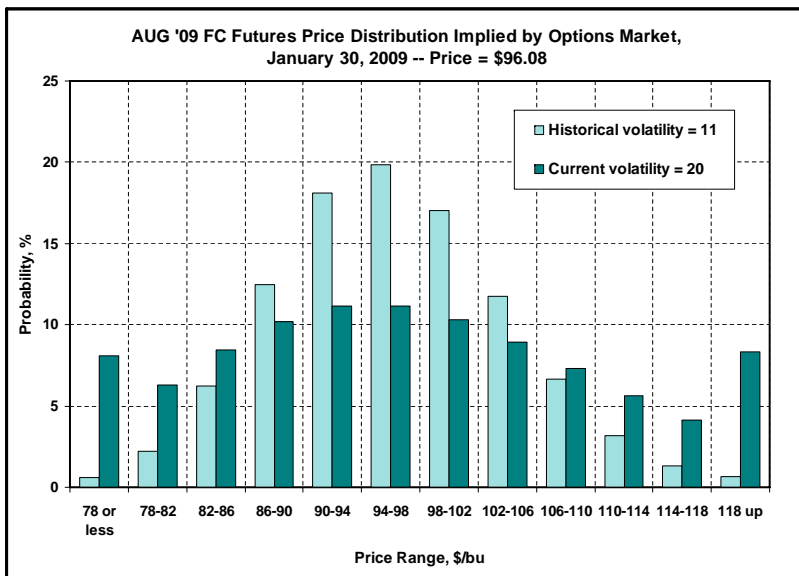
Options market volatility suggests considerable risk exists...



Little more price variability in feeder cattle market than fed cattle market, but considerably less than grain markets ...



Options market volatility suggests considerable risk exists...



Implied volatility in options market...

Current volatility levels are significantly above historical levels for most commodities (e.g., corn, soybean, wheat, hogs, cattle, crude oil, milk).

Higher volatility implies option premiums are “more expensive” and predicting price levels is much harder (not that it is ever easy).

Hedging, Options, Forward Contracting

Comparison and Contrast

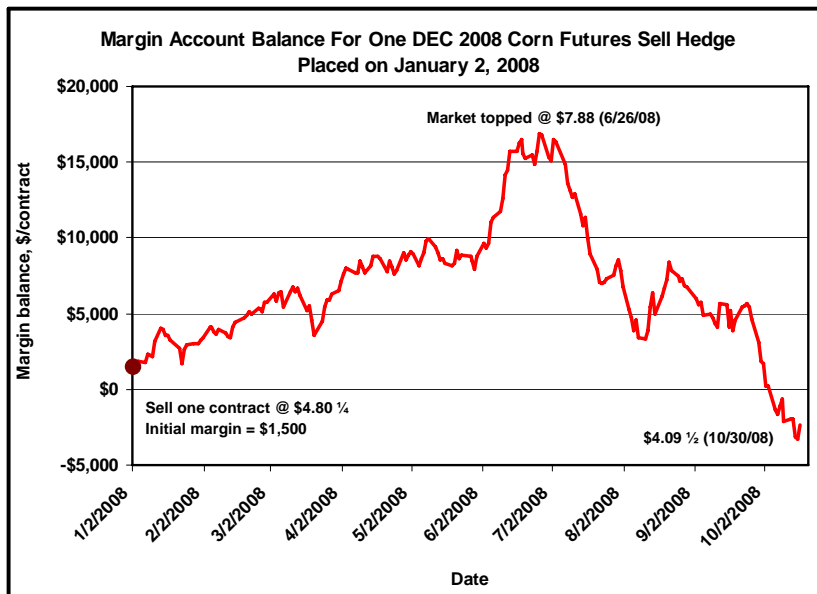
1. Hedging with Futures

- Fixed contract specifications and size
- Deal with broker
- Margin account and maintenance required
- Brokerage commission
- Locks in a “fixed” price
- Basis risk present
- Easy to enter & liquidate
- Transparent price quotes

Corn Margin Requirements (per contract) Selected Dates



Date	Speculative		
	Initial	Maintenance	Hedging
1/25/2005	\$439	\$325	\$325
8/5/2005	\$810	\$600	\$600
9/29/2005	\$506	\$375	\$375
12/5/2005	\$338	\$250	\$250
4/4/2006	\$473	\$350	\$350
8/25/2006	\$608	\$450	\$450
10/12/2006	\$878	\$650	\$650
10/16/2006	\$1,013	\$750	\$750
11/14/2006	\$1,148	\$850	\$850
12/20/2006	\$1,013	\$750	\$750
1/17/2007	\$1,215	\$900	\$900
1/29/2007	\$1,350	\$1,000	\$1,000
9/24/2007	\$1,080	\$800	\$800
5/25/2008	\$1,350	\$1,000	\$1,000
8/8/2008	\$2,025	\$1,500	\$1,500



Would you have stayed with this hedge the whole time?

Basis...

- Basis is the difference between two prices.
- In commodity marketing, basis is generally referred to the difference between a specific cash price and a specific futures price.
- Mathematically: $Basis = Cash - Futures$
- Nearby and Deferred
- Typically forecasted using a historical average (forecast is needed to evaluate price when hedging)

AgManager.info: Interactive Crop Basis Tool - Windows Internet Explorer

http://www.agmanager.info/marketing/basis/tools/

AG MANAGER.INFO
Department of Agricultural Economics

Home / Crops / Marketing / Basis Report / Tools

Interactive Crop Basis Tool:

Enter the required information

1 Location: (For available locations, click [HERE](#))

City: Hiawatha State: KS Zip: OR

2 Commodity: Select a commodity: Corn

3 Year: Select a Year: 2009

4 Generate Report: Create Chart OR Create Table

Database updated: Thursday, January 29, 2009

Department of Agricultural Economics K-State Research & Extension College of Agriculture Kansas State University

Beef Basis > Forecasting Tools > Basis and Price Forecast

http://www.beefbasis.com/ForecastingTools/BasisForecast.aspx

BeefBasis.com
Decision Support for America's Beef Producers

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Feeder Cattle Basis Forecast

Hedge Analysis

State: Kansas Location: Farmers & Ranchers Livestock Comm Expected Sale Date: 1/13/2009

Sex: Steer Frame: Lg & Med/Lg Grade: 1

Weight: 620 lbs/head Head: 50

Feeder Cattle Futures Price: 103.65 \$/cwt Live Cattle Futures Price: 100.85 \$/cwt Corn Futures Price: 5.07 \$/bu

Reference Contract: Jan 2009 Reference Contract: Apr 2009 Reference Contract: Mar 2009

Transaction Date: Sep 30, 2008 Transaction Date: Sep 30, 2008 Transaction Date: Sep 30, 2008

RUN

BeefBasis.com

- Explicitly considers corn price
- Can consider any weight for steers and heifers between 300-900 lbs
- Accounts for lot size
- 15 states with multiple locations per state



www.agmanager.info

Hedging, Options, Forward Contracting

Comparison and Contrast

2. Buying (Put) Options

- Fixed contract specifications and size
- Deal with broker
- No Margin account or maintenance required
- Pay premium for option
- Brokerage commission
- Sets a “minimum price”
- Basis risk present
- Easy to enter & liquidate
- Transparent price quotes



www.agmanager.info

Hedging, Options, Forward Contracting

Comparison and Contrast

3. Option Strategies

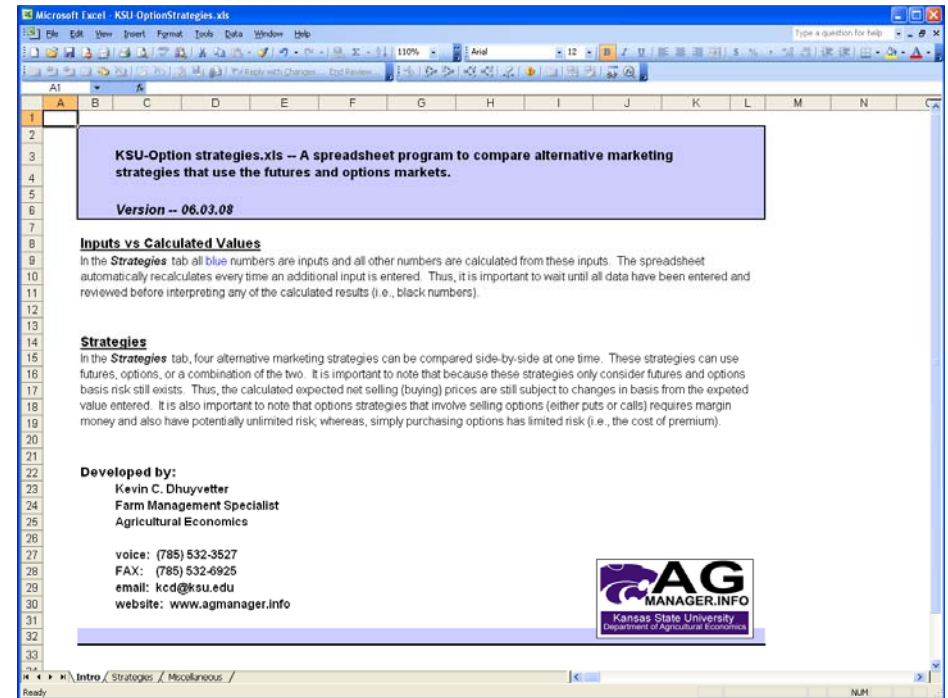
- Synthetic put – forward contract or hedge and simultaneously buy a call option
- Buying a call option in lieu of storing grain
- Window/fence – buy a put option and sell call option(s)
- Many other possibilities...
- Selling options does require margin money as potential losses are unlimited

Hedging vs. Options...

Because the various risk management tools have different characteristics (e.g., flat price vs. minimum price), it is useful to compare them under alternative price outcomes.

KSU-Option Strategies.xls is a tool that allows users to compare various strategies, specifically focusing on risk management strategies using put and call options.

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Example: Corn market (2/6/09 closing prices)

December Corn (CZ)

Futures close	\$4.2175	
Days until expiration	286	
Strike price	Call premium	Put premium
\$3.70	\$0.89250	\$0.37875
\$3.80	\$0.83625	\$0.42125
\$3.90	\$0.78375	\$0.46875
\$4.00	\$0.73500	\$0.51875
\$4.10	\$0.68750	\$0.57125
\$4.20	\$0.64375	\$0.62625
\$4.30	\$0.60500	\$0.68750
\$4.40	\$0.56750	\$0.74875
\$4.50	\$0.53375	\$0.81500
\$4.60	\$0.50250	\$0.88250
\$4.70	\$0.47250	\$0.95125

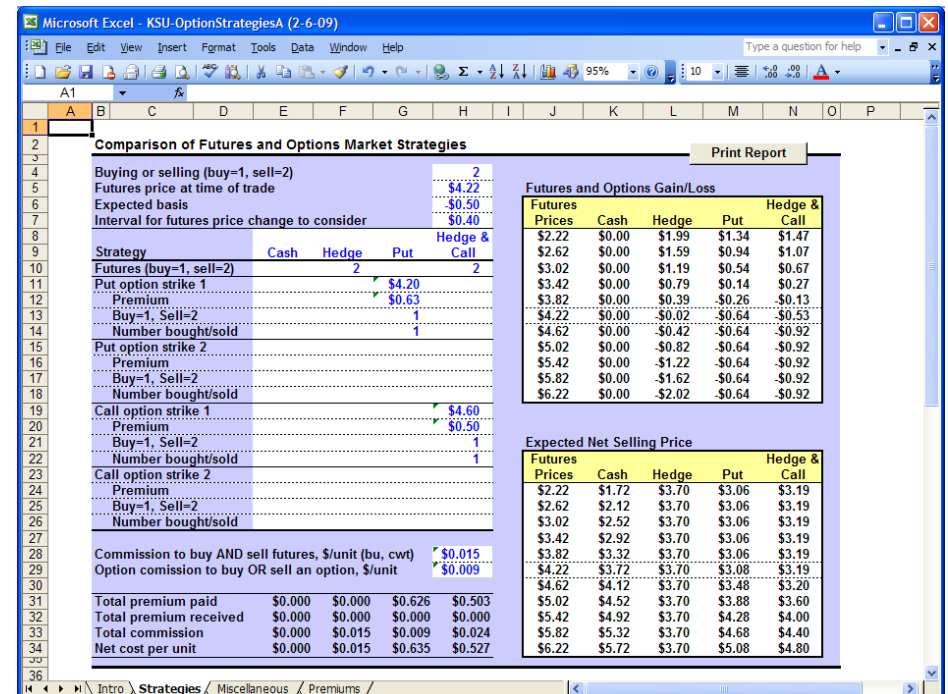
A. Cash (do nothing)

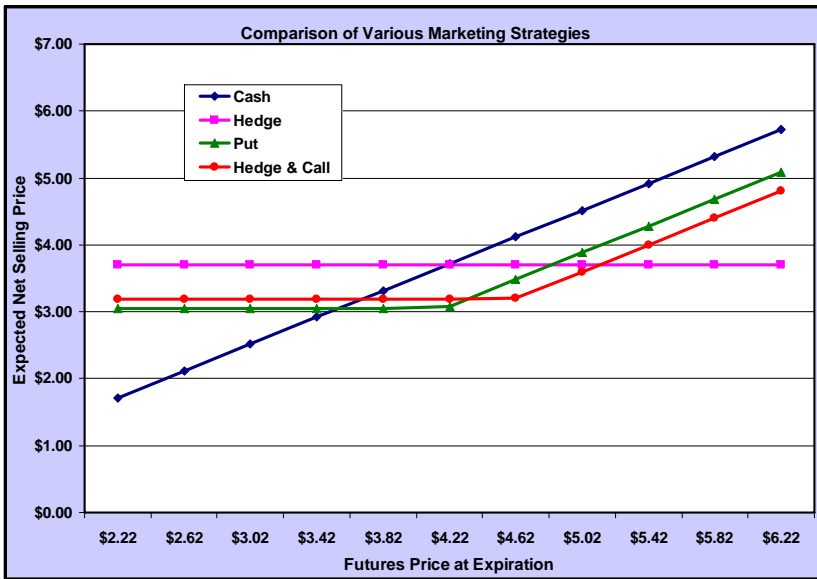
B. Hedge (sell futures)

C. Buy Put option (floor price)

D. Hedge and buy Call option (floor price)

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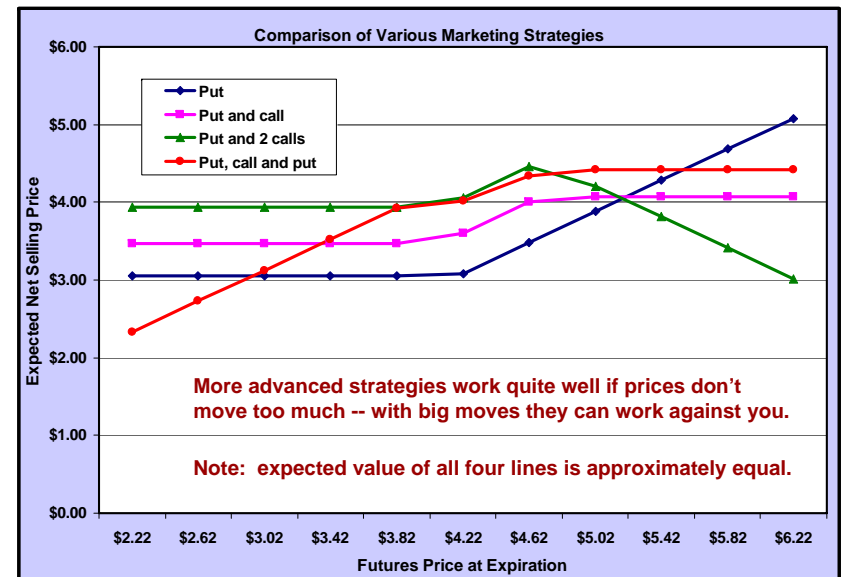
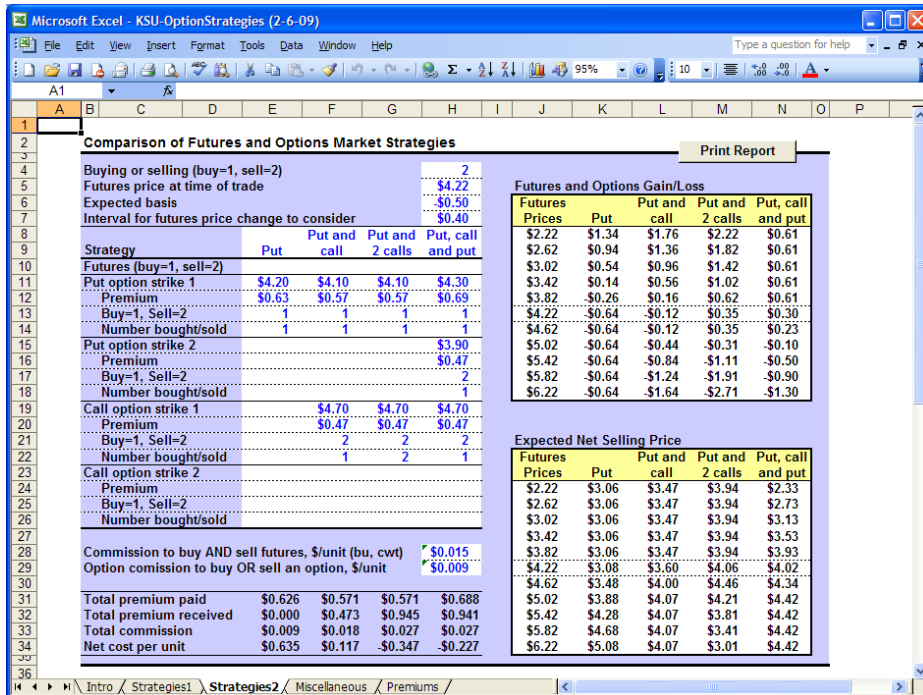


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Comparison of additional options strategies

- A. Buy Put option (floor price)
- B. Buy Put option and sell Call option (window)
- C. Buy Put option and sell two Call options (???)
- D. Buy Put option, sell Call option, and sell Put option (???)

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Hedging, Options, Forward Contracting

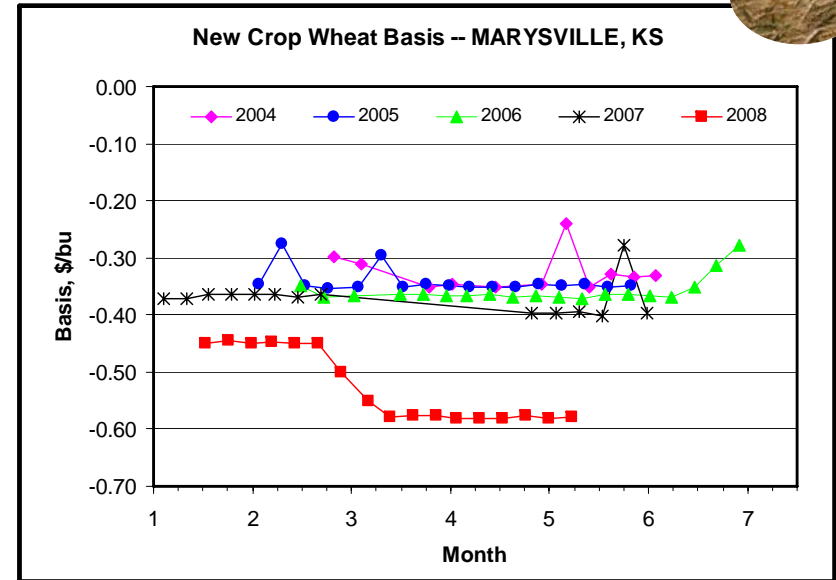
Comparison and Contrast

4. Forward Contracting

- Contract specifications and size negotiable
- Deal with local grain buyer
- No margin account or maintenance required
- No brokerage commission
- Basis risk eliminated
- Pay a “premium” for transferring basis risk
- May not be offered
- Price quotes are not transparent
- Obligation to deliver commodity

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Forward contract implied deferred basis...



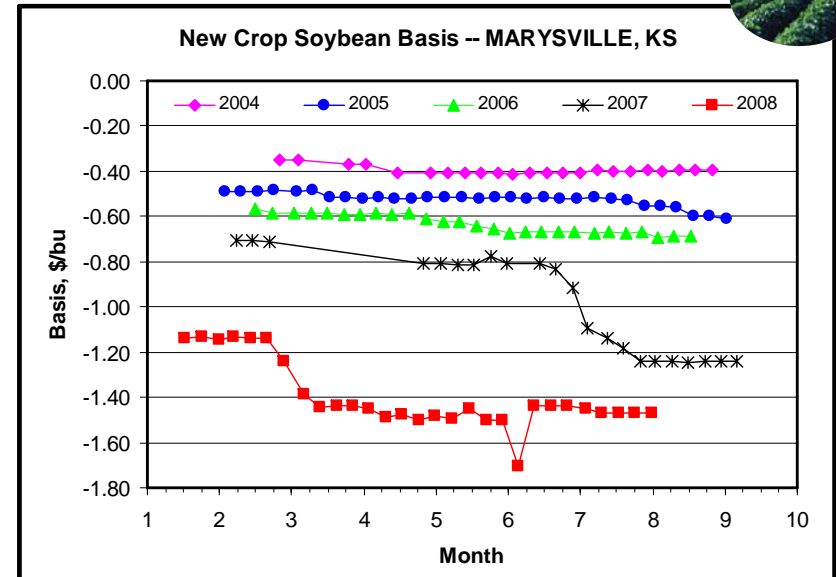
38

Forward contract implied deferred basis...



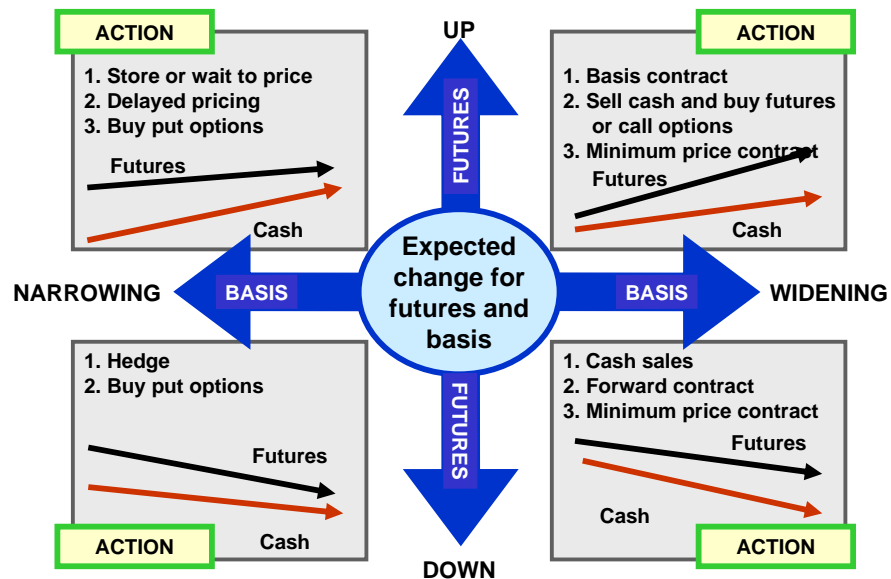
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Forward contract implied deferred basis...



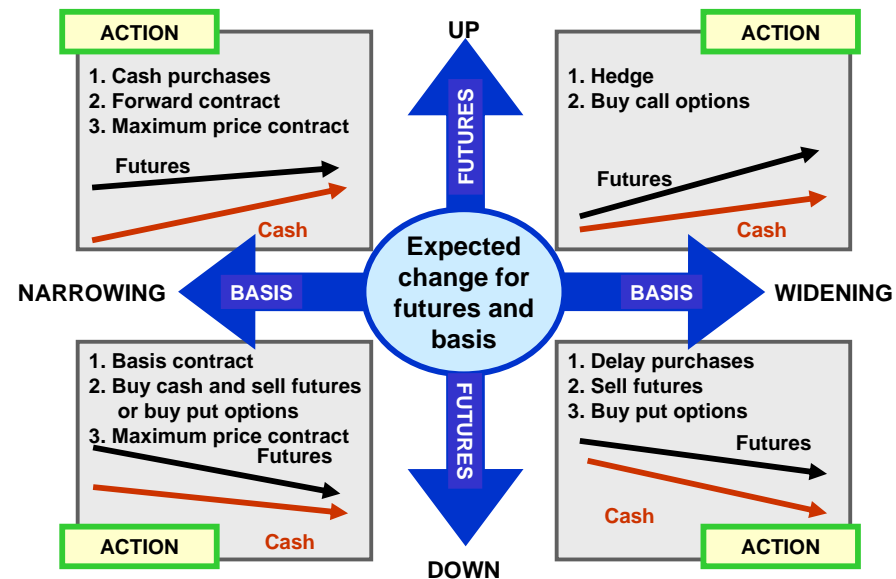
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Seller



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Buyer



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Risk/Pricing Strategies Summary

- Price volatility has increased significantly relative to historical levels
- Producers/lenders tend to underestimate price risk
 - Leads to belief that option premiums are too expensive
 - and managing price risk is not all that important
- Basis has widened considerably (harder to predict?)
- Traditional risk management tools (futures, options, forward contracts) can still be effective, but old "rules of thumb" may no longer apply
 - Access to capital is critical for managing margin accounts
 - Is it becoming more important to simultaneously manage both input and output price risk?

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The screenshot shows the AgManager.info website interface. The main header includes the site name and tagline: "Providing Information and Tools For The Competitive Business". A sidebar on the left lists navigation categories such as Agribusiness, Crops, Energy, Farm Management, Human Resources, Income Tax & Law, Livestock & Meat, Policy, Ag Econ News, Contributors, Programs, Sponsors, and Upcoming Events. The main content area features a "Recent Updates" section with several articles, including "Futures-Based Price Forecasts for Diesel Fuel", "Grain Outlook Radio Program", "Livestock and Hay Charts", "Current Grain Outlook Newsletter", "Kansas Grain Price Spread-Transportation Returns", "Crop Basis Maps", "Updated Crop Basis Tool", "In The Cattle Markets", "Livestock Outlook Radio Program", "World Grain Supply and Demand Estimates (WASDE)", "US Ethanol Production, Imports and Stock (Updated)", "Seasonal Grain and Cattle Price Spreadsheets (Excel)", "KEMA Monthly Newsletter", "Risks: The Environment and the Economy", "Grain", "2007 & 2008", "Pasture", and "The Making of An Economic Crisis". A large "Questions?" box is overlaid on the bottom right of the screenshot.