Four Types of Price Variation:

Applications for Marketing and Risk Management

Duane Griffith
Montana State University - Emeritus

Wyoming - March 2013

RMA

University of Wyoming

Profitable & Sustainable Agricultural Systems
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RightRisk

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Price Patterns

- Those caused primarily by fundamental conditions in the market/industry
  - Annual nature of production systems
- Those caused by uncertainty in the markets
  - The markets hunting for a direction
  - Technical charting patterns

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Patterns Help Predict Price Variation

- Types of Price Variation/*Market Expectations*
  - **Seasonal**
    - Occur due to nature of commodity being marketed
      - Small grains harvest, weaned calves
      - Dumping effect
      - Carry markets that allow storage of commodities
  - **Cyclical**
    - Similar to seasonal but over a **longer period** of time
      - Cattle cycle
  - **Trend**
    - Major price moves in the same direction for a significant amount of time & based on fundamentals
  - **Random = Noise**
    - Imperfect knowledge; Short lived
    - Another type of variation will eventually prevail to establish price/patterns
- These Basic Patterns are driven by Fundamentals

KCBT Weekly on 11-1-10

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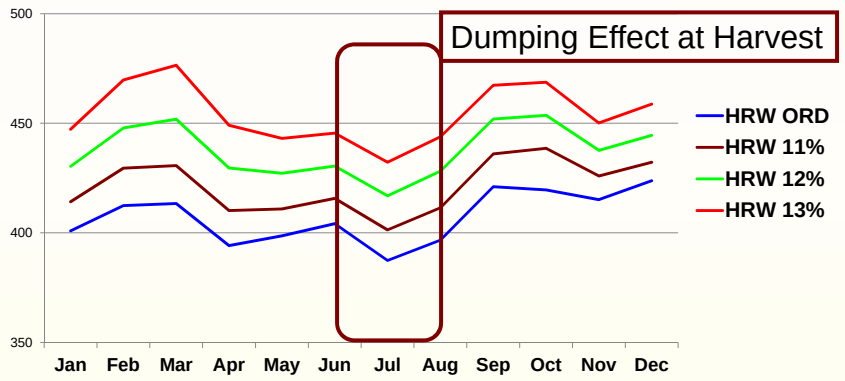
Seasonal Pattern
Avg. Monthly Cash **Price**

Avg. Monthly Price – HRW (2000 - 2010)



Patterns more apparent in averaged Basis data

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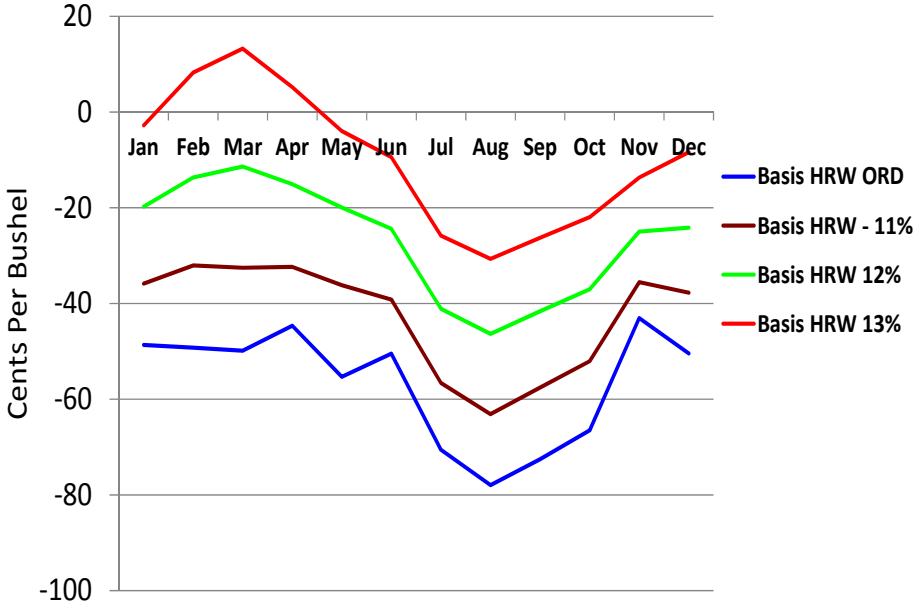
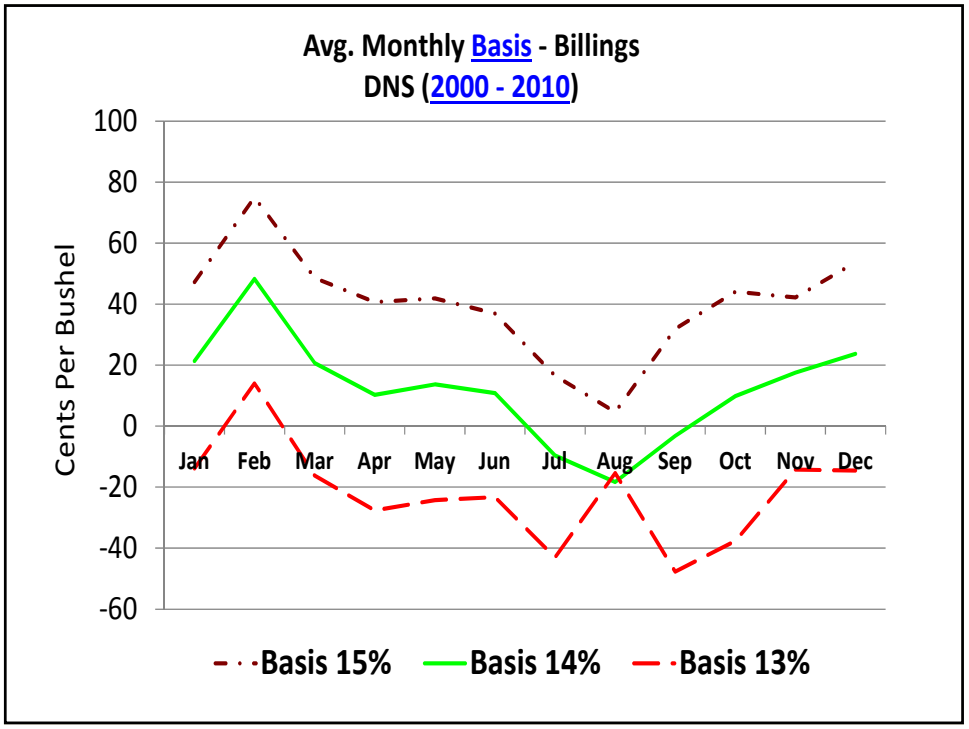
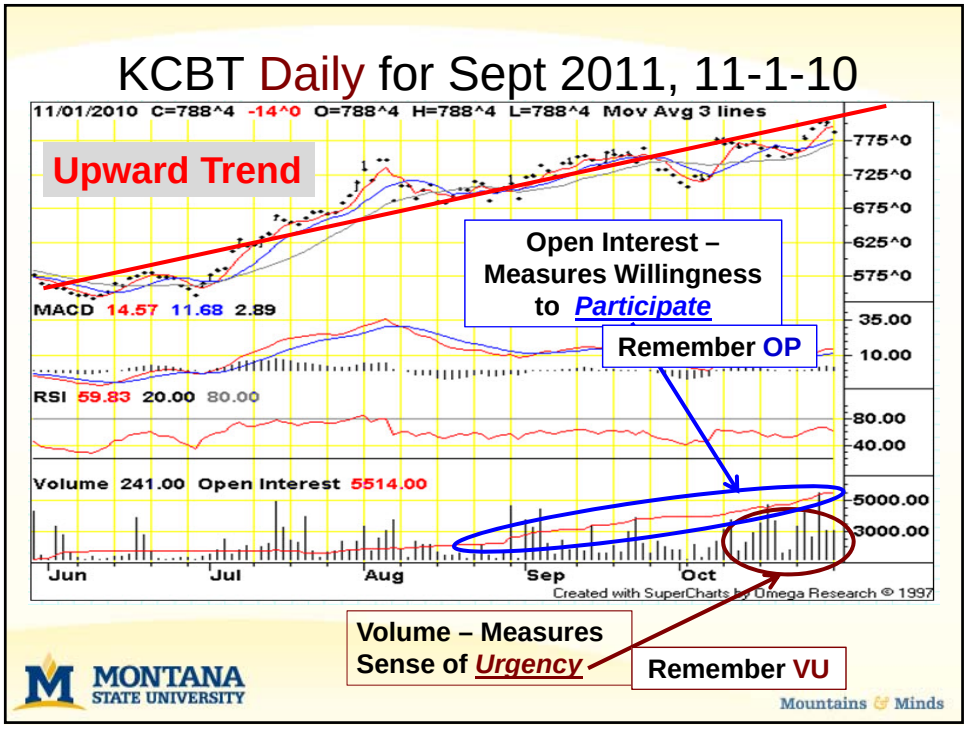
Avg. Monthly Basis - Billings
HRW (2000 - 2010)




Avg. Monthly Basis - Billings
DNS (2000 - 2010)
Cents Per Bushel
100
80
60
40
20
0
-20
-40
-60
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Basis 15%
Basis 14%
Basis 13%


KCBT Daily for Sept 2011, 11-1-10
11/01/2010 C=788^4 -14^0 O=788^4 H=788^4 L=788^4 Mov Avg 3 lines
Upward Trend
Open Interest – Measures Willingness to Participate
Remember OP
MACD 14.57 11.68 2.89
RSI 59.83 20.00 80.00
Volume 241.00 Open Interest 5514.00
Jun
Jul
Aug
Sep
Oct
Created with SuperCharts by Omega Research © 1997
Volume – Measures Sense of Urgency
Remember VU
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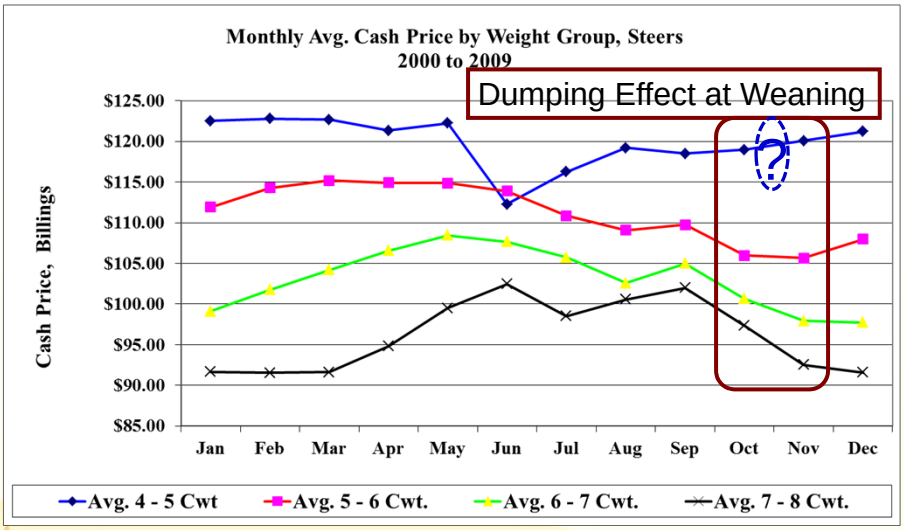
Seasonal Pattern
Montana Monthly Avg. Steer Prices by Weight



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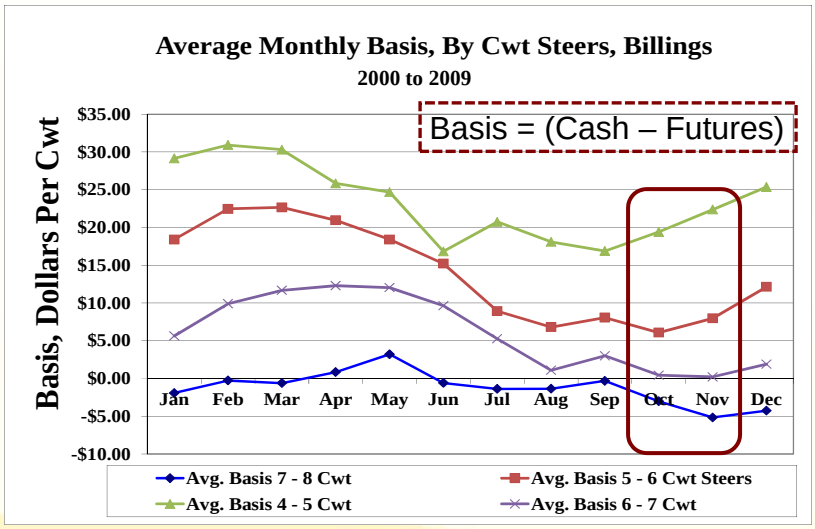
Montana Monthly Avg. Basis by Weight, Steers



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CBOT **Weekly**, Nov. 1, 2010

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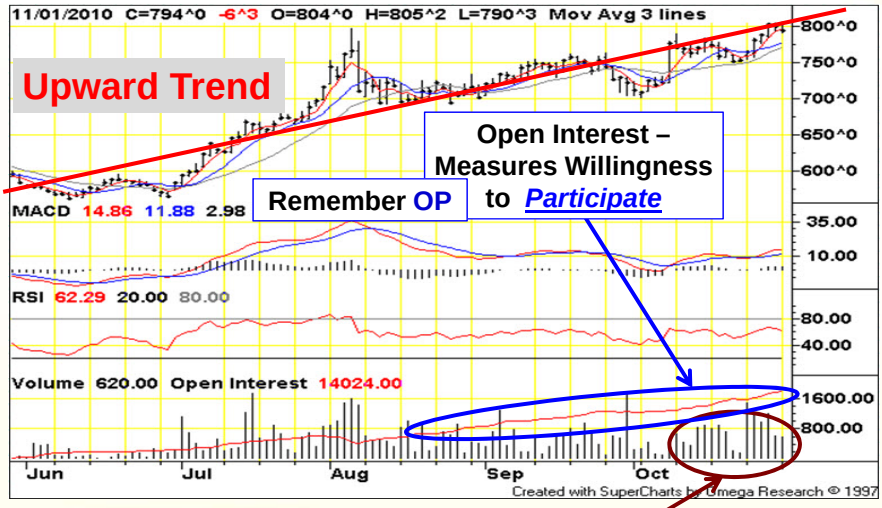
CBOT **Daily**, Sept 2011, on 11-1-10



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Information From Grain *Markets*

- Markets often display seasonal patterns for commodities that can be stored
- They help measure the **Willingness to participate** with high **Open Interest**
  - Increasing and "traders" want in
- Provides a measure of **Urgency**, high **Volume** of contracts traded
  - I think I am where I need to be
- Identify Trends based of fundamentals

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Trends Defined

- Major price moves in the same direction for a significant amount of time
- Trends can be up, down, or sideways
- Trends are almost always based on fundamentals
  - Demand and supply
  - Relates to local, regional, global markets
    - Long term issues related to basic harvest, storage, transportation, handling, global markets, weather,…
    - Combinations of several factors at the same time

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Random Price Variation

- Random price variation occurs with imperfect knowledge
  - Uncertainty in fundamentals
- Short term weather scares
  - Yields, harvest difficulties
- These variations are relatively short lived
- One of the other three types of price variation will eventually prevail to **establish price**

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Sept. 2013 – KCBT – HRW

	Commodity Exchange KCBT			
HRW – Billings	Ord.	11%	12%	13%
Futures Price [1]	$8.08	$8.08	$8.08	$8.08
Avg. Basis [2]	$-.73	$-.58	$-.42	$-.26
Predicted Local Cash Price	$7.35	$7.50	$7.66	$7.82
Basis Standard Dev.	$.66	$.48	$.36	$.28
Price Range Forecast [3]	**$6.69 – $8.01**	**$7.02 – $7.98**	**$7.30 – $8.02**	**$7.54 - $8.01**

[1] On February 20th for Sept of 2013
[2] Billings Average Basis for 2000 through 2010
[3] Predicted Local Cash Price +/- one Standard Deviation of the basis = range of prices = (68% chance of price being in this range)

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Contents of the CD

- Marketing-March2013
  - 1_Introduction
  - 2_UnderstandingBasis
  - 3_TraditionalMarketingTools
    - ForwardContracting
    - Futures
    - Options
  - 4_Insurance_RiskManagement
    - Grains
      - Combo-PreimumCalculations
    - Livestock
      - LGM
      - LRP
  - 5_RiskManagementStratgies
  - 6_Cost-of-Production
    - ERS Budgets
  - 7_ReferenceMaterial

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Questions

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Understanding and Using Basis Data/Information

Basis = (Cash minus Futures)

Wyoming, March 2013

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Sample Basis Calculations

Date	Local Cash*	Futures	Basis
	----------Prices----------		
6/2/12	$ 6.45	$6.85	-$.40
6/3/12	$ 6.45	$6.89	-$.44
6/4/12	$ 6.50	$6.94	-$.44
6/5/12	$ 6.52	$6.96	-$.44
6/6/12	$ 6.50	$6.92	-$.42
6/9/12	$ 6.48	$6.90	-$.42
6/10/12	$ 6.45	$6.88	-$.43
6/11/12	$ 6.40	$6.85	-$.45
		Average Basis	**-$.43**

* For specific type and quality of commodity

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Basis Versus Price Predictability

- Basis largely determined by stable factors
  - Storage, handling, transportation costs
  - Factors that can be controlled/managed
- Price effected by relatively volatile factors
  - Weather, Global market issues, Global supply and demand,
  - Has substantial effect on prices and maybe basis
- Using Basis transfers price risk to others
  - You take on Basis Risk

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Estimating Local Cash Price

Futures Price for specific commodity

- **Transportation**
  - All costs Farm to Market
- **Local storage, handling, profit**

= Basis

- **Discounts**
  - Class = HRW Ord. versus 12%
  - Quality = dirt, chaff, other, etc.
- **Premiums**
  - Class & Quality

Commodity ????

= Expected Local Cash Price for specific commodity

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Basis

- Elevator storage & handling costs
- Transportation

Prices

- Global markets (supply & demand)
- Quality factors
  - Protein level
  - Premiums/Discounts
- Global and local weather
- Institutions & governments
- Transportation

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Stable Basis is What Makes Futures Work

- Basis = (Cash – Futures)
- What cash price minus what futures price
- Location, Time, Quality determine Basis amount
  - Local cash price for quality/grade of product
    - Terminal market cash price for quality/grade
- Must know your local basis
  - Nearest buyers – elevators, auctions, etc.
- Adjust Basis to your operation ?????

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Different Types of Basis

Current Cash Price by commodity, location, time
Minus
Near by Futures Price = "Continuous Basis"

OR

Current Cash Price by commodity, location, time
Minus
Specific Contract Month= "Point in Time"

Some basis data on the CD

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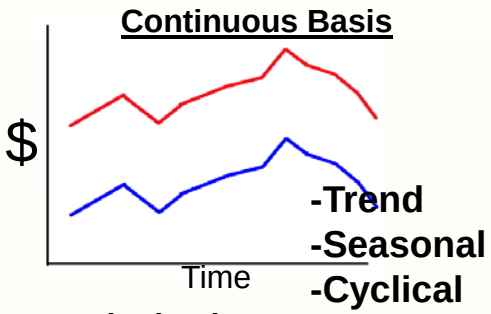
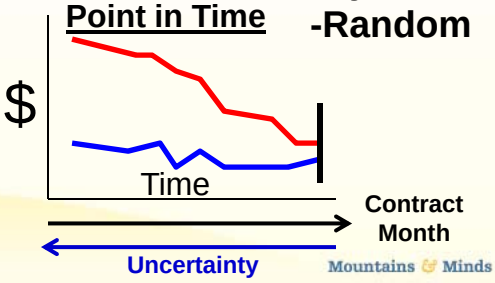
Different Types of Basis

Current local cash price minus near by futures



Current local cash price minus specific futures contract month



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Positive & Negative Basis

- If basis is positive the cash is greater than futures price
- If negative then cash is less than futures
- Basis will vary over time (random noise)
- As basis changes it is referred to as
  - Improving (strengthening) or
  - Weakening
- **Why not getting narrower or wider**
- Inverted Basis (opposite of normal)

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Strong or Strengthening Basis

- Basis is strong if the current basis is greater than the historical average basis
  - Basis is typically Positive
    - Larger than average positive number
  - Basis is typically Negative
    - Smaller than average negative number
  - Basis becomes inverted

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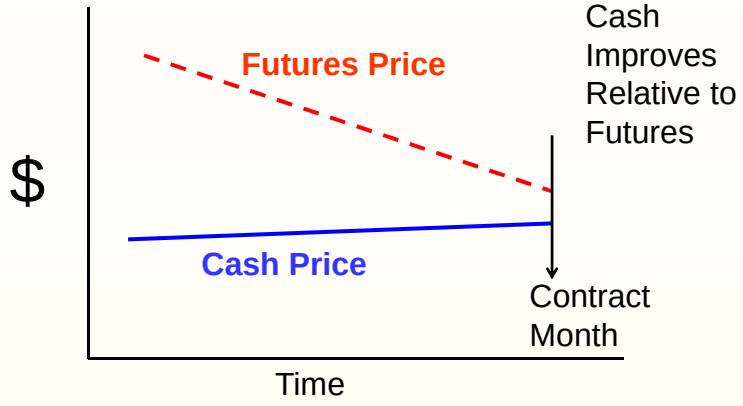
Picture of Strong/Improving Basis

Basis = (Cash – Futures)



Basis is negative but is trending toward a smaller negative number

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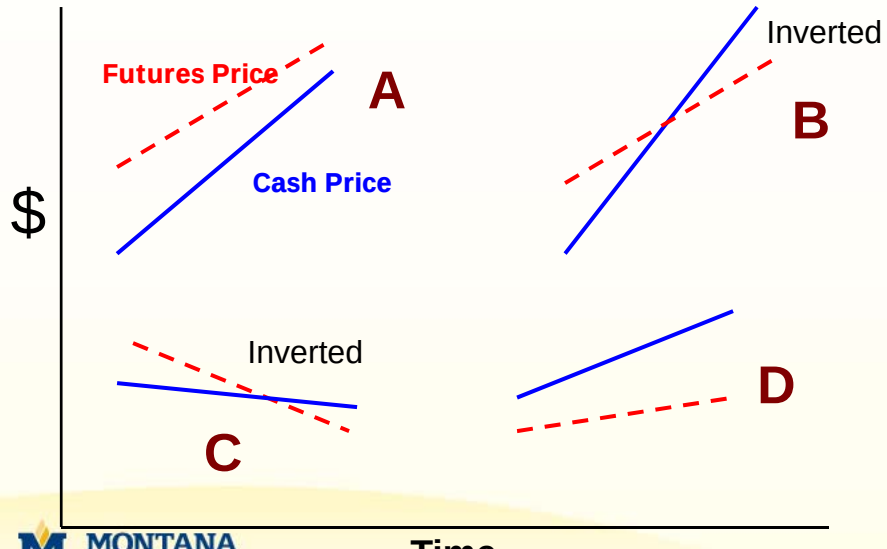
Other Improving Basis Patterns



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Weak or Weakening Basis

- Basis is weak if the current basis is less than the historical average basis.
  - – Positive basis
    - Smaller than average positive number
  - – Negative basis
    - Larger than average negative number

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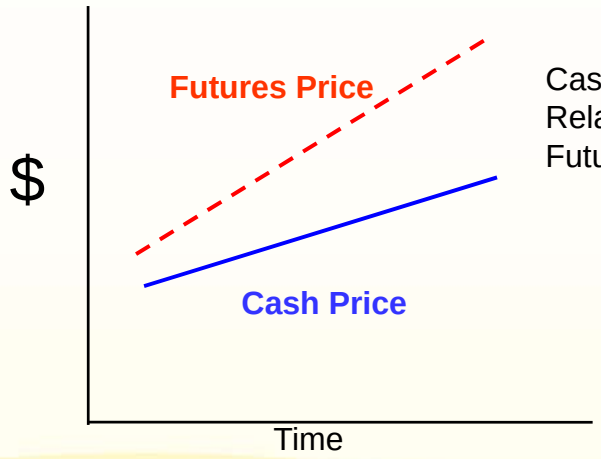
Picture of Weakening Basis



Cash Weakens Relative to Futures

-Trend
-Seasonal
-Cyclical
-Random

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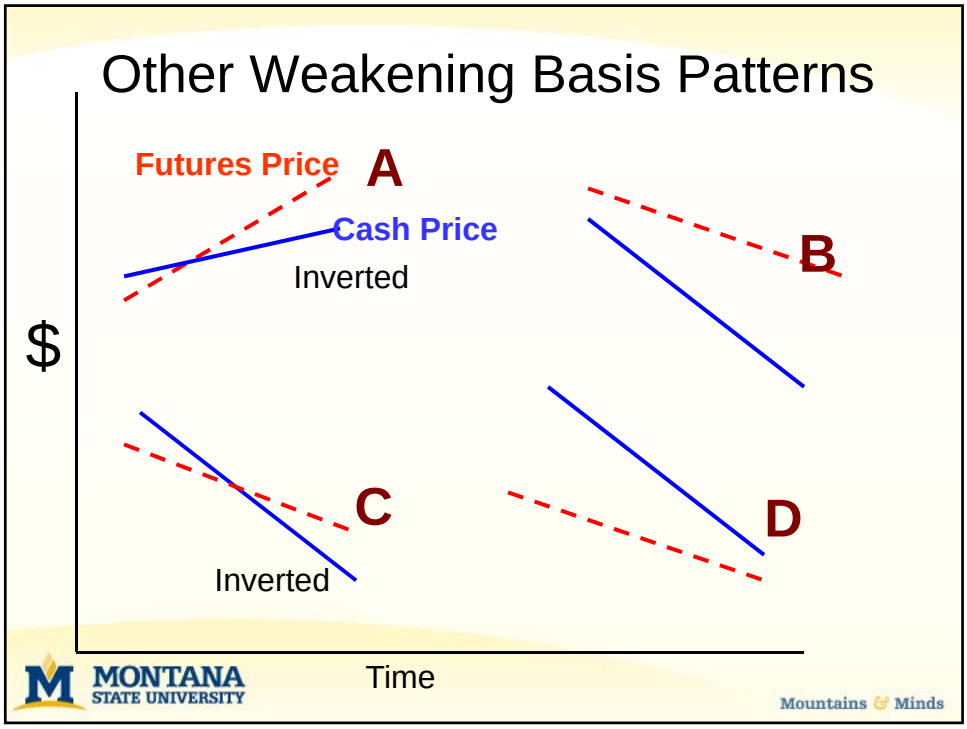
Other Weakening Basis Patterns
Futures Price
A
Cash Price
Inverted
B
$
C
Inverted
D
Time
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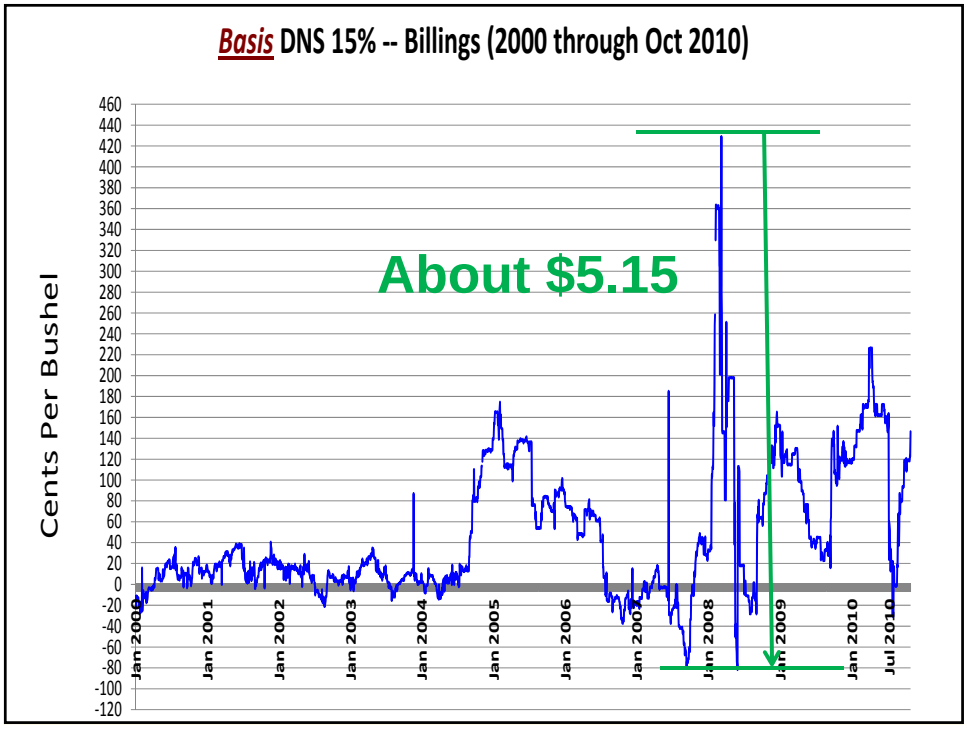
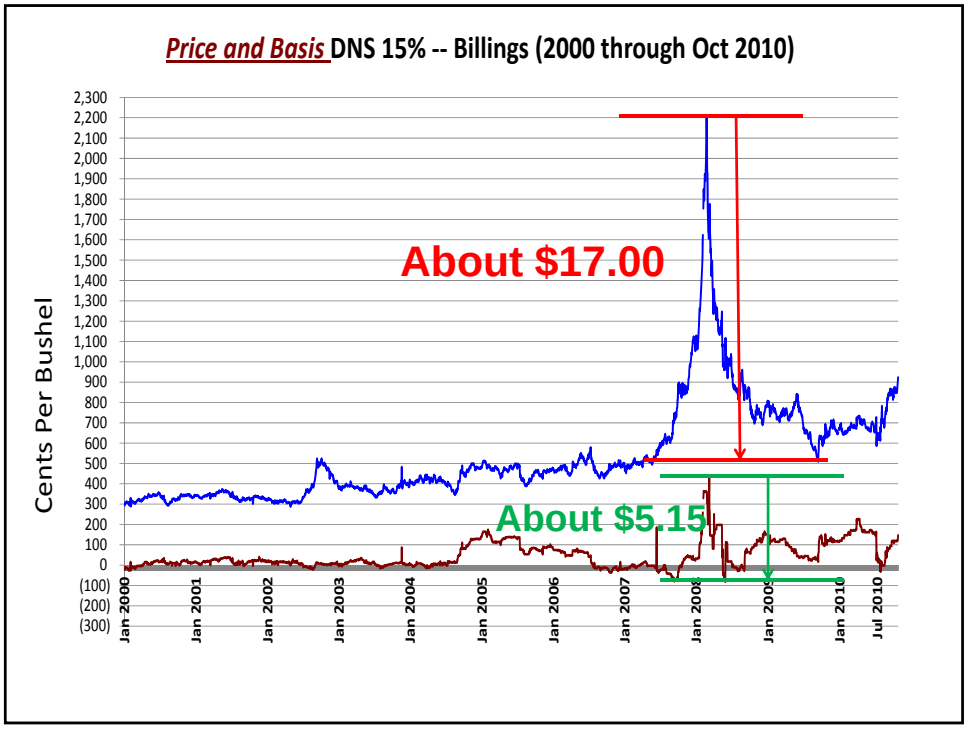
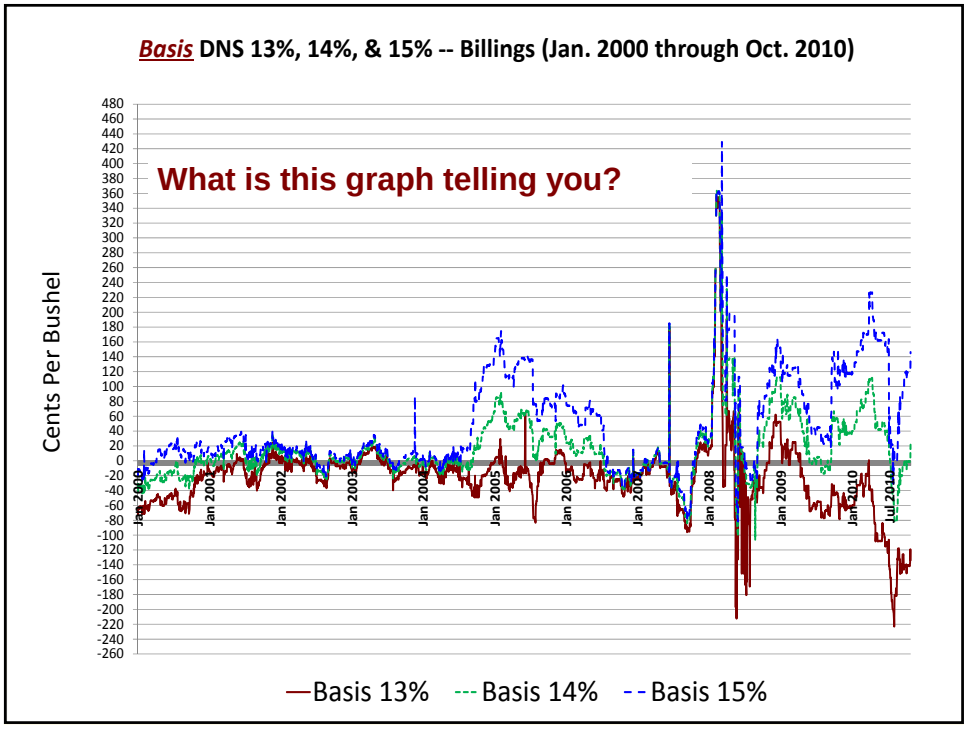
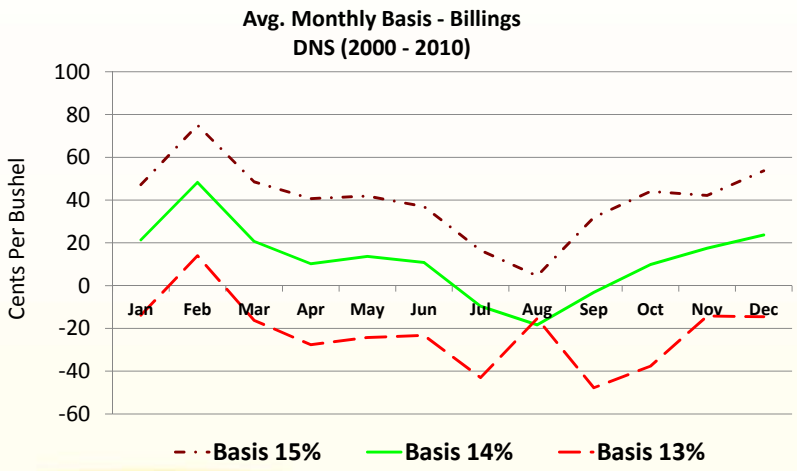

Basis DNS 15% -- Billings (2000 through Oct 2010)
Cents Per Bushel
About $5.15
460
440
420
400
380
360
340
320
300
280
260
240
220
200
180
160
140
120
100
80
60
40
20
0
-20
-40
-60
-80
-100
-120
Jan 2000
Jan 2001
Jan 2002
Jan 2003
Jan 2004
Jan 2005
Jan 2006
Jan 2007
Jan 2008
Jan 2009
Jan 2010
Jul 2010


Price and Basis DNS 15% -- Billings (2000 through Oct 2010)
Cents Per Bushel
About $17.00
About $5.15
2,300
2,200
2,100
2,000
1,900
1,800
1,700
1,600
1,500
1,400
1,300
1,200
1,100
1,000
900
800
700
600
500
400
300
200
100
0
(100)
(200)
(300)
Jan 2000
Jan 2001
Jan 2002
Jan 2003
Jan 2004
Jan 2005
Jan 2006
Jan 2007
Jan 2008
Jan 2009
Jan 2010
Jul 2010


Basis DNS 13%, 14%, & 15% -- Billings (Jan. 2000 through Oct. 2010)
Cents Per Bushel
What is this graph telling you?
480
460
440
420
400
380
360
340
320
300
280
260
240
220
200
180
160
140
120
100
80
60
40
20
0
-20
-40
-60
-80
-100
-120
-140
-160
-180
-200
-220
-240
-260
Jan 2000
Jan 2001
Jan 2002
Jan 2003
Jan 2004
Jan 2005
Jan 2006
Jan 2007
Jan 2008
Jan 2009
Jan 2010
Jul 2010
Basis 13%
Basis 14%
Basis 15%

Dark Northern Spring, Billings Basis



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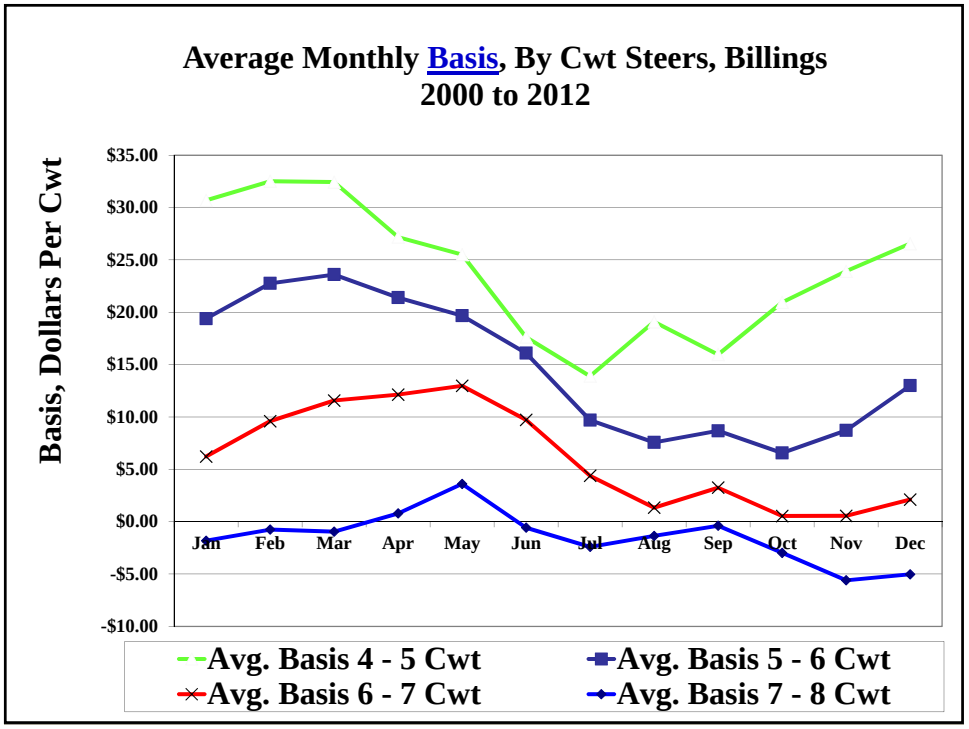

Data Available to Calculate Local Basis

- Grains by type and protein level
  - Agricultural Marketing Service (AMS)
  - http://www.ams.usda.gov/AMSv1.0/
- Livestock Market Information Center (LMIC)
  http://www.lmic.info/
- Your local:
  - Extension Agent or Specialist
  - Elevator,
  - Auction yard,
  - Marketing club

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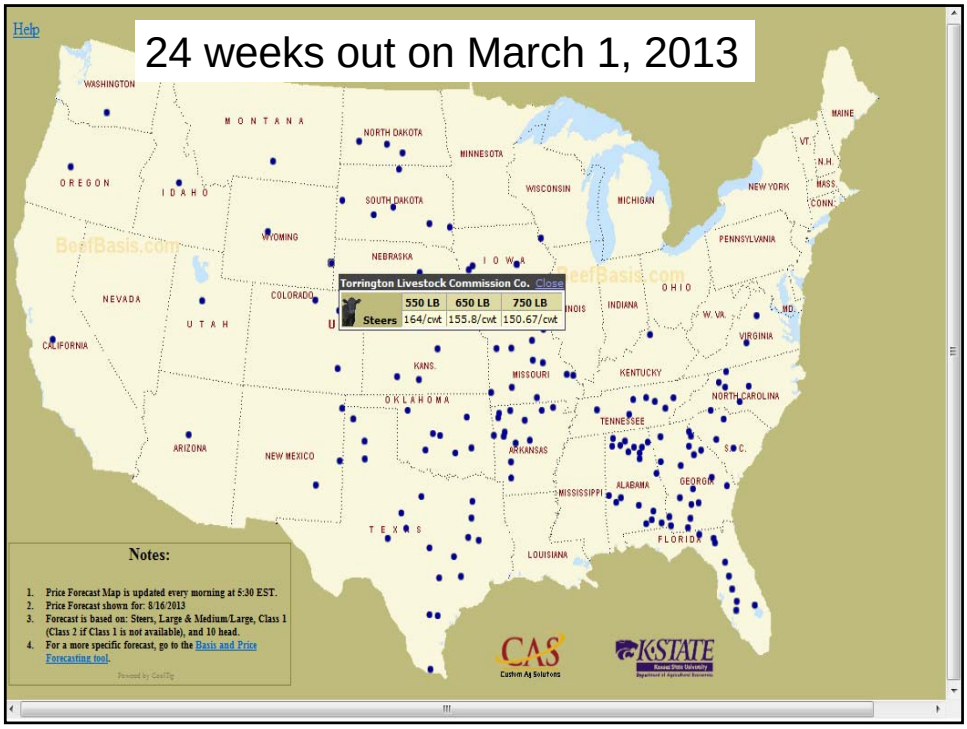
Help
24 weeks out on March 1, 2013
Torrington Livestock Commission Co. Close
550 LB
650 LB
750 LB
Steers
164/cwt
155.8/cwt
150.67/cwt
Notes:
1. Price Forecast Map is updated every morning at 5:30 EST.
2. Price Forecast shown for: 8/16/2013
3. Forecast is based on: Steers, Large & Medium/Large, Class 1 (Class 2 if Class 1 is not available), and 10 head.
4. For a more specific forecast, go to the Basis and Price Forecasting tool.
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Agricultural Marketing Service
USDA ORGANIC
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http://www.ams.usda.gov/AMSv1.0/LPSMarketNewsPage

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Futures, Options, Margin Accounting- Use Slideshow Mode

Questions

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Using Futures to Hedge (Price Risk Management)

Duane Griffith
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Wyoming - March 2013

RMA

University of Wyoming

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Pricing Alternatives

Pricing (marketing) is not about affecting your local price, it is about taking a good price when it is offered

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What You Can Do With Futures Info.

- Predict local cash price
- Calculate Basis information
- Get perspective on global view of commodity
- Reduce your price risk
  - Lock in a price for one or more commodities
  - Protect financial health
  - Avoid uncomfortable discussion with your lender and other business partners (spouse)
- Develop a sound marketing plan

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Predicting Local Price With Futures

• KCBT *Futures*	$7.60
• Basis HRW,	$- .58
• Trading cost per bushel	$ .02
• Predicted Local Cash Price	$7.00
• KCBT *Puts* Strike Price	$7.20
• Basis HRW,	$- .58
• Trading cost per bushel	$ .02
• Minus Premium Cost for Put	$ .60
• Established Floor Price Using a Put	$6.00

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Basis is What Makes Futures Work

- Basis = Cash - Futures
  - What cash price minus what futures price
    - Local cash price for quality/grade of product
    - Terminal market cash price for quality/grade
- Must know your local basis
- Adjusting Basis to your area
  - Local may be 100 miles or more away
  - Does this reflect “your local market?”

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Terminology Can Be a Barrier to Using Markets

- Short and Long Positions
- Puts, Calls, Options
- Initial Margin, Maintenance Margin
- Margin calls
- Market Orders
- Bid, Ask
- Spreads, Fences, Straddles
- Hedger, Speculator

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Equal and Opposite

- All transactions in a futures market requires two individuals
- For every Sell there is a Buy
- For every Short there is a Long
- For every individual seeking protection from adverse price moves there is one or more individuals offering protection and therefore believes prices will actually move in a direction a producer does not want.

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True Hedger Perspective

- True hedger has equal and opposite positions in the futures and cash markets
  - Long cash then short futures
    - Producer selling grain or calves
  - Long futures then short cash
    - Feeder buying calves or grain to use as feed
- Objective is to reduce/eliminate risk of adverse price moves
  - Needs to find someone to take the risk

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First Stage of Production	Second Stage of Production
Long Commodity	**Short Commodity**
• Has/Produces Commodity	• Needs/Consumes Commodity
• Farmer/Rancher	• Feeder/Miller/Etc.
• Short Futures = Sell Futures Contract(s)	• Long Futures = Buy Futures Contract(s)
• Locks In Price	• Locks in Price
• Equal & Opposite	• Equal & Opposite
• True Hedger	• True Hedger
• Price **Decreases**	• Price **Increases**

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Take Position in Futures = **Locks In** a Price

- **Sell Futures = Short**
- Long cash, then Short Futures
  - Futures move **lower**
    - Make money in the futures
    - Cash price **decreases**
  - Futures move **higher**
    - Lose money in the futures
    - Margin calls
    - Cash price **increases**

- **Buy Futures = Long**
- Long Futures then Short Cash
  - Futures move **higher**
    - Make money in the futures
    - Cash price **increases**
    - Futures move **lower**
    - Lose money in the futures
    - Margin calls
    - Cash price **decreases**

Note that futures and cash prices move together (parallel)

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Mechanics of the Futures Market

- Futures price are set by daily trading in the specified commodity
- Exchange specifies: **See contents of CD**
  - The quantity and quality for each commodity traded
  - Price limits, ranges and ticks
  - Delivery points, times and days, if applicable
  - Hours, days, and months a contract is traded
  - Minimum initial and maintenance margins
- CD contains links to material for Exchanges

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Lock in Price - Futures Goes Up

• **Sell** wheat futures contract, lock in	$8.00
• Expected basis at sale	-.56
• Brokerage and Interest	-.04
• Projected cash price at sale	$7.40
At Harvest/Sale/Offset	
• **Purchase** wheat futures contract	$8.50
• Cash price at sale	$7.94
• Actual Basis ($7.94 - $8.50)	$ -.56
• Loss per bushel on futures contract	$ .50
• Net Price realized ($7.94 - .50 -.04)	$7.40

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Lock in Price - Futures Goes Down

• **Sell** Feeder Cattle Contract for	$ 150.00
• Expected Basis at sale	$ 6.00
• Projected cash price at sale	$ 156.00
At Weaning/Sale/Offset	
• **Purchase** Futures Contract	$ 145.00
• Gain on futures of ($150 - $145)	$ 5.00
• Cash price at sale time	$ 151.00
• Actual Basis ($151 - $145)	$ 6.00
• Net price received ($151.00 + $6.00)	$ 156.00

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The Brokers Role

- Buys something they don't want
- Sells something they don't have
- Has a seat on an Exchange they can't sit on and
- They are absolutely necessary

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Mechanics of Selling or Buying

- Contact Broker and execute an order
- Many different types of orders can be placed
- Type of order you put in will depend on your marketing strategy and **your marketing plan**

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Sample of "Market Orders"

- **Market order (MKT)**
  - An order placed at any time during the trading session to immediately execute the entire order at the best available offer price (for buy orders) or bid price (for sell orders).
- **Market-if-touched (MIT)**
  - An order that automatically becomes a market order if the price is reached. An MIT order to buy becomes a limit order if and when the instrument trades at a specific or lower trigger price; an MIT order to sell becomes a limit order if and when the instrument trades at a specified or higher trigger price.
- **Market-on-close (MOC)**
  - An order submitted at any time within a trading session, but only executed on the close.
- **Market on open (MOO)**
  - A market order entered before an opening, to be executed immediately upon the open of the trading session.

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Margin Accounting for Livestock

Basic Margin Accounting

Commodity Traded	Feeders	Initial margin per contract		$3,000
Exchange Used	CME	Maintenance margin required		$2,500
Contract Month Traded	Oct-13	Initial Position (Buy or Sell)	(B or S)	S
Number of Contracts Traded	2	Initial Margin Paid to Broker		$6,000
Contract Size in Cwt, Bu, lbs, etc. (for one contract)	50,000	Date of Initial Position (M/D/Y)		12/3/2012
Initial contract price	$1.5800			

<<< Shading means number is calculated/protected

Date	Current Price Quote	- Previous Price Quote	= Change From Previous Quote	X Units Under Contract	= Change in Margin From Last Quote	+ Previous Ending Margin Balance	= Margin Account Balance	+ Margin Call Required	= Final Margin Account Balance
12-Nov	$1.1250	1.5800	$ 0.4550	100,000	45,500.00	6,000.00	51,500.00	-	51,500.00
13-Jan	$1.6400	1.1250	$ (0.5150)	100,000	(51,500.00)	51,500.00	0.00	5,000.00	5,000.00
17-Jan	$1.5900	1.6400	$ 0.0500	100,000	5,000.00	5,000.00	10,000.00	-	10,000.00
28-Jan	$1.6400	1.5900	$ (0.0500)	100,000	(5,000.00)	10,000.00	5,000.00	-	5,000.00
2-Feb	$1.5600	1.6400	$ 0.0800	100,000	8,000.00	5,000.00	13,000.00	-	13,000.00
8-Mar	$1.5400	1.5600	$ 0.0200	100,000	2,000.00	13,000.00	15,000.00	-	15,000.00

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Margin Accounting KCBT Example

Basic Margin Accounting

Commodity Traded	Wheat	Initial margin per contract		$1,250
Exchange Used	KCBT	Maintenance margin required		$1,000
Contract Month Traded	March	Initial Position (Buy or Sell)	(B or S)	S
Number of Contracts Traded	5	Initial Margin Paid to Broker		$6,250
Contract Size in Cwt, Bu, lbs, etc. (for one contract)	5,000	Date of Initial Position		7/27/2010
Initial contract price Per Unit	$7.3500			

Shading means number is calculated/protected

Date	Current Price Quote	- Previous Price Quote	= Change From Previous Quote	X Units Under Contract	= Change in Margin From Last Quote	+ Previous Ending Margin Balance	= Margin Account Balance	+ Margin Call Required	= Final Margin Account Balance
5-Aug	$8.0000	7.3500	$ (0.6500)	25,000	(16,250.00)	6,250.00	(10,000.00)	15,000.00	5,000.00
10-Aug	$7.2000	8.0000	$ 0.8000	25,000	20,000.00	5,000.00	25,000.00	-	25,000.00
25-Aug	$7.3000	7.2000	$ (0.1000)	25,000	(2,500.00)	25,000.00	22,500.00	-	22,500.00
10-Sep	$7.8000	7.3000	$ (0.5000)	25,000	(12,500.00)	22,500.00	10,000.00	-	10,000.00
30-Sep	$7.0000	7.8000	$ 0.8000	25,000	20,000.00	10,000.00	30,000.00	-	30,000.00
7-Oct	$7.4000	7.0000	$ (0.4000)	25,000	(10,000.00)	30,000.00	20,000.00	-	20,000.00
29-Oct	$7.9000	7.4000	$ (0.5000)	25,000	(12,500.00)	20,000.00	7,500.00	-	7,500.00
7-Nov	$8.1500	7.9000	$ (0.2500)	25,000	(6,250.00)	7,500.00	1,250.00	3,750.00	5,000.00
20-Nov	$7.1500	8.1500	$ 1.0000	25,000	25,000.00	5,000.00	30,000.00	-	30,000.00
1-Dec	$8.0000	7.1500	$ (0.8500)	25,000	(21,250.00)	30,000.00	8,750.00	-	8,750.00

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Hedger	Interest
• Volatility	Y
• Basis	Y
• Cash Markets	Y
• Liquidity	Wants
• Location	Basis
• Time frame	Cycles
• Price Patterns	Y
• Fundamentals	Y

Speculator	Interest
• Volatility	Y
• Basis	NA
• Cash Markets	NA
• Liquidity	Provides/Wants
• Location	NA
• Time frame	Varies
• Price Patterns	Y
• Fundamentals	Y

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Cost of Production

- Should you estimate your costs of production
- Yes, But…..
- Should be part of your marketing plan
- Cost of production provides you with your Break-even costs necessary to cover
  - Operating Costs (Variable Costs)
  - Ownership Costs (Fixed Costs)
- It should NOT be the only criteria used as to when you lock in a price

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The Next Slide

- If you are loaded this PowerPoint for the first time, the next slide will appear blank, except for the wording at the bottom of the slide.
- The contents of the slide, interactive software, only appears in the slide show mode.

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Futures, Options and Margin Accounting Analysis

Contract Specs for Each Exchange

- CME

http://www.cmegroup.com/rulebook/CME/

- CBOT

http://www.cmegroup.com/rulebook/CBOT/

- KCBT

http://www.kcbt.com/products.html

- MGE

http://www.mgex.com/spring_wheat.html

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Questions

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Using Options for Price Risk Management

Duane Griffith
Montana State University - Emeritus

Wyoming - March 2013

RMA

University of Wyoming

Profitable & Sustainable Agricultural Systems
UW Cooperative Extension Service

RightRisk

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Futures, Options & Obligations

- Terminology can be confusing
  - Options on Feeders, Wheat, or Corn
  - December option
- Options are rights but not obligations to buy or sell a futures contract
  - Put = Sell and Call = Buy
- Futures contract carries a joint obligation for the buyer and seller
  - Seller must make delivery &The buyer must take delivery OR
  - **Offset contract**

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Discussion of Terms

- CBOT Wheat Futures 12-1-10, $7.42
- CBOT **Put** Strike Prices and Premiums, 12-1-2010

Strike	Session								Pr.Day		Expiry Date
	Open	High	Low	Last	Time	Sett	Chg	Vol	Sett	OpInt	
future	743 2/8	745 6/8	739	742	Nov 26, 16:00	742	3	1044	739	16166	
600	-	23 4/8	23 4/8	23 4/8	Nov 26, 16:43	23 4/8	-2 3/8	1	25 7/8	1	
660	-	45	45	45	Nov 26, 16:43	45	-3 3/8	1	48 3/8	1	
680	-	54 1/8	54 1/8	54 1/8	Nov 26, 16:43	54 1/8	-3 4/8	1	57 5/8	1	
700	-	64	64	64	Nov 26, 16:43	64	-3 6/8	1	67 6/8	24	
730	-	80 5/8	80 5/8	80 5/8	Nov 26, 16:43	80 5/8	-4	1	84 5/8	1	
740	-	86 4/8	86 4/8	86 4/8	Nov 26, 16:43	86 4/8	-4 1/8	1	90 5/8	1	

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Obligations With Options

- Depends on whether you are *buying* or *selling* options
- Put Option is the right but not the obligation to **sell** an underlying futures contract.
  - You can *buy* or *sell* put options
- Call Option is the right but not the obligation to **buy** and underlying futures contract.
  - You can *buy* or *sell* call options
- There is no joint obligation with options

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Buying vs Selling Options

- For every buyer, there is a seller.
- The typical producer will most always buy an option
- The buyer of an option has:
  - The right to exercise the option *but*
  - The seller can not force him to exercise the option.
- Buying Put = Right to sell a futures contract
  - Put = Sell (PS)
  - A true hedger wants equal and opposite positions in the cash and futures market.

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Put = Right to Sell Futures = Short Position

- But you typically buy a put
  - Buy a right to sell a futures contract
  - Put = Sell (PS)
- Protection from falling prices
- For producers of a commodity
  - Small grains, calves

Remember PS => (Put=Sell)

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Call = Right to Buy Futures = Long Position

- You typically buy a call
  - Buy a right to buy a futures contract
  - Call = Buy (CB)
- Protection from rising prices
- For consumers of a commodity
  - Feeders that use grain
  - Feeders that purchase calvess as an input

Remember CB => (Call=Buy)

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Strike Price and Premiums

- Options are bought and sold at a specified strike price
  - Set by Exchanges and willingness of "option writer"
- The premium paid for the option is set by daily trading at each exchange
  - Very similar to insurance premium
- Once you pay the premium and transactions cost (brokerage fees), you have no more costs associated with an option contract.
  - You either Exercise/Offset or the option expires worthless

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Value of an Option

- Options derive their value from the strike price relative to the futures price for a specific commodity and time frame
- The premium paid for a particular strike price is set through daily bidding
- The premium established depends on how high or low the bidders thinks the futures price will get relative to the strike price.
- Value also depends on time to expiration and volatility of the market for a specific commodity

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In the Money or Out of the Money

- **In the money** = An option who's strike price, if exercised, would give positive returns
- **Out of the money** = a strike price that if exercised would not produce positive returns
- **Puts** are in the money when **strike price greater than futures**
- **Calls** are in the money when **strike price less than futures**
- **At the money** (Strike price = Futures price)

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Value of In the Money Option

- Has both intrinsic value and time value
  - Intrinsic value is the positive return it would generate if exercised
  - Time value is the value due to the chance it will change in value between now and when it is exercised
- Why would anyone want to buy an out of the money option?
  - Need to manage risk
  - Price expectations

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Mechanics of an Option

- How do you capture value?
- **Exercise the option**
  - Take the underlying position in the futures market
  - Once in the futures market, you offset the futures contract at the current futures price.
- **Offset the option** by selling (or buying) it back
  - The premium at the time the option is offset should reflect its value.
  - What happens if it does not?

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KCBT Sept 2011 **Puts** on 11-26-10

Strike	Session								Pr.Day		Expiry Date
	Open	High	Low	Last	Time	Sett	Chg	Vol	Sett	OpInt	
future	761 6/8	763 6/8	752 6/8	759 6/8	Nov 26, 14:27	759 6/8	3 6/8	475	756	8120	
720	-	66 4/8	66 4/8	66 4/8	Nov 26, 16:43	66 4/8	-1 6/8	0	68 2/8	4	

Puts are **In The Money** when
Strike price is > the Current Futures Price,

i.e. why would I exercise the *right to sell* at
$7.20 when the Futures are trading at $7.60

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Establishing A Floor Price Using a Put

Initial Conditions:

• KCBT ***Puts*** Strike Price	$7.20
• Plus Basis HRW,	$- .58
• Minus Trading cost per bushel	$ .02
• Minus Premium Cost for Put	$ .67
• Estimated Floor Price Cash	$5.93

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KCBT July2011 **Puts** on Nov. 26, 2010

Put = Sell (**PS**)

In the Money

Strike	Session								Pr.Day		Expiry Date
	Open	High	Low	Last	Time	Sett	Chg	Vol	Sett	OpInt	
future	750	756 6/8	745 6/8	752 2/8	Nov 26, 14:27	752 2/8	2 2/8	1436	750	49867	
440	-	1/8	1/8	1/8	Nov 26, 16:43	1/8	-	0	1/8	12	
480	-	4/8	4/8	4/8	Nov 26, 16:43	4/8	-0 1/8	0	5/8	10	
500	-	1 1/8	1 1/8	1 1/8	Nov 26, 16:43	1 1/8	-	0	1 1/8	31	
550	-	4 4/8	4 4/8	4 4/8	Nov 26, 16:43	4 4/8	-0 3/8	0	4 7/8	106	
570	-	7 1/8	7 1/8	7 1/8	Nov 26, 16:43	7 1/8	-0 3/8	0	7 4/8	61	
600	-	12 6/8	12 6/8	12 6/8	Nov 26, 16:43	12 6/8	-0 5/8	43	13 3/8	374	
620	-	17 7/8	17 7/8	17 7/8	Nov 26, 16:43	17 7/8	-0 5/8	0	18 4/8	22	
630	-	20 6/8	20 6/8	20 6/8	Nov 26, 16:43	20 6/8	-0 6/8	0	21 4/8	47	
640	-	24	24	24	Nov 26, 16:43	24	-0 6/8	0	24 6/8	384	
650	-	27 3/8	27 3/8	27 3/8	Nov 26, 16:43	27 3/8	-1	1	28 3/8	215	
660	-	31 2/8	31 2/8	31 2/8	Nov 26, 16:43	31 2/8	-0 7/8	0	32 1/8	238	
680	-	39 4/8	39 4/8	39 4/8	Nov 26, 16:43	39 4/8	-1 1/8	0	40 5/8	15	
690	-	44 1/8	44 1/8	44 1/8	Nov 26, 16:43	44 1/8	-1 1/8	0	45 2/8	248	
700	-	48 7/8	48 7/8	48 7/8	Nov 26, 16:43	48 7/8	-1 2/8	7	50 1/8	342	
720	-	59 3/8	59 3/8	59 3/8	Nov 26, 16:43	59 3/8	-1 3/8	0	60 6/8	32	
730	-	64 7/8	64 7/8	64 7/8	Nov 26, 16:43	64 7/8	-1 4/8	0	66 3/8	19	
740	-	70 6/8	70 6/8	70 6/8	Nov 26, 16:43	70 6/8	-1 3/8	0	72 1/8	28	
750	-	76 6/8	76 6/8	76 6/8	Nov 26, 16:43	76 6/8	-1 4/8	0	78 2/8	217	
760	-	82 7/8	82 7/8	82 7/8	Nov 26, 16:43	82 7/8	-1 4/8	0	84 3/8	18	
770	-	89 2/8	89 2/8	89 2/8	Nov 26, 16:43	89 2/8	-1 4/8	0	90 6/8	20	

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KCBT Sept2011 **Calls**, 11-26-10

Strike	Session								Pr.Day		Expiry Date
	Open	High	Low	Last	Time	Sett	Chg	Vol	Sett	OpInt	
future	761 6/8	763 6/8	752 6/8	759 6/8	Nov 26, 14:27	759 6/8	3 6/8	475	756	8120	
780	-	78 5/8	78 5/8	78 5/8	Nov 26, 16:43	78 5/8	1 5/8	0	77	3	

Calls are **In The Money** when
Strike price is < the Current Futures Price,

i.e. why would I exercise the *right to buy* at $7.80 when the Futures are trading at $7.60

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KCBT July2011 **Calls**, 11-26-10

Strike	Session								Pr.Day		Expiry Date
	Open	High	Low	Last	Time	Sett	Chg	Vol	Sett	OpInt	
future	750	756 6/8	745 6/8	752 2/8	Nov 26, 14:27	752 2/8	2 2/8	1436	750	49867	
600	-	164 3/8	164 3/8	164 3/8	Nov 26, 16:43	164 3/8	1 5/8	0	162 6/8	29	
660	-	123	123	123	Nov 26, 16:43	123	1 2/8	0	121 6/8	68	
680	-	111 4/8	111 4/8	111 4/8	Nov 26, 16:43	111 4/8	1 2/8	0	110 2/8	6	
700	-	101	101	101	Nov 26, 16:43	101	1 1/8	0	99 7/8	184	
750	-	79	79	79	Nov 26, 16:43	79	0 6/8	0	78 2/8	272	
770	-	71 4/8	71 4/8	71 4/8	Nov 26, 16:43	71 4/8	0 5/8	0	70 7/8	13	
780	-	68 1/8	68 1/8	68 1/8	Nov 26, 16:43	68 1/8	0 5/8	0	67 4/8	22	
800	-	61 6/8	61 6/8	61 6/8	Nov 26, 16:43	61				240	
820	-	56	56	56	Nov 26, 16:43	56				16	
850	-	48 5/8	48 5/8	48 5/8	Nov 26, 16:43	48 5/8	0 3/8	0	48 2/8	425	
860	-	46 3/8	46 3/8	46 3/8	Nov 26, 16:43	46 3/8	0 2/8	3	46 1/8	174	
900	-	38 6/8	38 6/8	38 6/8	Nov 26, 16:43	38 6/8	0 2/8	0	38 4/8	742	
1000	-	25 5/8	25 5/8	25 5/8	Nov 26, 16:43	25 5/8	-	0	25 5/8	229	

In the Money

CBOT **Puts** for Sept 2011 on 11-26-10

Strike	Session								Pr.Day		Expiry Date
	Open	High	Low	Last	Time	Sett	Chg	Vol	Sett	OpInt	
future	743 2/8	745 6/8	739	742	Nov 26, 16:00	742	3	1044	739	16166	
600	-	23 4/8	23 4/8	23 4/8	Nov 26, 16:43	23 4/8	-2 3/8	1	25 7/8	1	
660	-	45	45	45	Nov 26, 16:43	45	-3 3/8	1	48 3/8	1	
680	-	54 1/8	54 1/8	54 1/8	Nov 26, 16:43	54 1/8	-3 4/8	1	57 5/8	1	
700	-	64	64	64	Nov 26, 16:43	64	-3 6/8	1	67 6/8	24	
730	-	80 5/8	80 5/8	80 5/8	Nov 26, 16:43	80 5/8	-4	1	84 5/8	1	
740	-	86 4/8	86 4/8	86 4/8	Nov 26, 16:43	86 4/8	-4 1/8	1	90 5/8	1	

http://www.tfccharts.com/menu.html

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In the Money

CBOT Calls For Sept 2011 on Nov. 26, 2010

Call = Right to Buy (**CB**)

Strike	Session								Pr.Day		Expiry Date
	Open	High	Low	Last	Time	Sett	Chg	Vol	Sett	OpInt	
future	743 2/8	745 6/8	739	742	Nov 26, 16:00	742	3	1044	739	16166	
720	-	96 6/8	96 6/8	96 6/8	Nov 26, 16:43	96 6/8	-0 7/8	1	97 5/8	23	
800	-	67 7/8	67 7/8	67 7/8	Nov 26, 16:43	67 7/8	-1 4/8	4	69 3/8	35	
850	-	54 7/8	54 7/8	54 7/8	Nov 26, 16:43	54 7/8	-1 5/8	1	56 4/8	1	
860	-	52 5/8	52 5/8	52 5/8	Nov 26, 16:43	52 5/8	-1 5/8	2	54 2/8	2	
960	-	35 2/8	35 2/8	35 2/8	Nov 26, 16:43	35 2/8	-1 4/8	25	36 6/8	25	
970	-	33 7/8	33 7/8	33 7/8	Nov 26, 16:43	33 7/8	-1 5/8	5	35 4/8	5	
980	-	32 5/8	32 5/8	32 5/8	Nov 26, 16:43	32 5/8	-1 5/8	10	34 2/8	10	
990	-	31 4/8	31 4/8	31 4/8	Nov 26, 16:43	31 4/8	-1 4/8	15	33	15	
1000	-	30 3/8	30 3/8	30 3/8	Nov 26, 16:43	30 3/8	-1 4/8	1	31 7/8	52	
1010	-	29 2/8	29 2/8	29 2/8	Nov 26, 16:43	29 2/8	-1 4/8	7	30 6/8	23	
1020	-	28 1/8	28 1/8	28 1/8	Nov 26, 16:43	28 1/8	-1 4/8	5	29 5/8	15	
1030	-	27 1/8	27 1/8	27 1/8	Nov 26, 16:43	27 1/8	-1 4/8	1	28 5/8	12	
1040	-	26 2/8	26 2/8	26 2/8	Nov 26, 16:43	26 2/8	-1 3/8	5	27 5/8	14	
1050	-	25 2/8	25 2/8	25 2/8	Nov 26, 16:43	25 2/8	-1 3/8	5	26 5/8	217	
1060	-	24 3/8	24 3/8	24 3/8	Nov 26, 16:43	24 3/8	-1 3/8	5	25 6/8	18	
1070	-	23 4/8	23 4/8	23 4/8	Nov 26, 16:43	23 4/8	-1 3/8	5	24 7/8	17	
1080	-	22 6/8	22 6/8	22 6/8	Nov 26, 16:43	22 6/8	-1 2/8	4	24	13	
1090	-	22	22	22	Nov 26, 16:43	22	-1 2/8	1	23 2/8	13	
1100	-	21 2/8	21 2/8	21 2/8	Nov 26, 16:43	21 2/8	-1 2/8	1	22 4/8	33	
1110	-	20 4/8	20 4/8	20 4/8	Nov 26, 16:43	20 4/8	-1 2/8	1	21 6/8	13	
1120	-	19 7/8	19 7/8	19 7/8	Nov 26, 16:43	19 7/8	-1 1/8	3	21	4	

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CME Feeder Quotes, 11-26-10

Month (Click for chart)	Session								Pr.Day		Options
	Open	High	Low	Last	Time	Sett	Chg	Vol	Sett	OpInt	
Cash	-	-	-	109.930 *	Nov 24, 16:14	-	-	-	114.080	-	n/a
Jan 11	118.750	119.100	118.600	118.750	Nov 26, 16:07	118.750	0.475	2109	118.275	15677	Call Put
Mar 11	119.125	119.500	119.125	119.375	Nov 26, 16:07	119.375	0.375	1318	119.000	8662	Call Put
Apr 11	119.575	119.700	119.575	119.700	Nov 26, 16:07	119.700	0.425	495	119.275	2510	Call Put
May 11	119.750	119.800	119.750	119.775	Nov 26, 16:07	119.775	0.425	310	119.350	3430	Call Put
Aug 11	120.200	120.500	120.200	120.500	Nov 26, 16:07	120.500	0.250	656	120.250	3028	Call Put
Sep 11	-	119.800	119.800	119.800	Nov 26, 16:07	119.800	0.300	20	119.500	188	Call Put
Oct 11	-	119.300	119.300	119.300	Nov 26, 16:07	119.300	0.300	9	119.000	41	Call Put
Nov 11	-	118.300	118.300	118.300	Nov 26, 16:07	118.300	0.300	2	118.000	2	Call Put

Do you like volatility as a producer?

http://www.tfccharts.com/menu.html

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CME Oct2011 Feeder Puts, 11-26-10

Strike	Session								Pr.Day		Expiry Date
	Open	High	Low	Last	Time	Sett	Chg	Vol	Sett	OpInt	
future	-	119.300	119.300	119.300	Nov 26, 16:07	119.300	0.300	9	119.000	41	
1100	-	3.450	3.450	3.400	Nov 26, 16:00	3.400	-0.050	-	3.450	1	

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Option Sellers (Writer)

- You are exposed to added risk if you are an option seller
  - Margin calls just like the futures market
- A person buying the option you sold can force you to provide the underlying position in the futures market.
  - Margin account balance used to cover your losses
- Can sell Puts or Calls
  - Sell right to sell = put (PS)
  - Sell right to buy = call (CB)

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The Next Slide

- If you are loaded this PowerPoint for the first time, the next slide will appear blank, except for the wording at the bottom of the slide.
- The contents of the slide, interactive software, only appears in the slide show mode.

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Futures, Options, Margin Accounting- Use Slideshow Mode

Questions

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Alternatives for Forward Contracting Grain

Columbia Grain

Feb. 2011

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Forward Contracting Defined

- Used a broad definition, Forward Contract is:
  - Locking in one or more components that determine the final price received.
    - Futures, Basis, etc.
  - You may not be able to lock in some components until the actual sale
    - Protein premiums & discounts
    - Discounts for other grain quality factors
      - Dirty, plump, etc.

FUTURES + BASIS - FREIGHT & MARGIN

+/- Other Adjustments = CASH

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Estimating Local Cash Price

Futures Price for specific commodity

- **Transportation**
  - – All costs Farm to Market
- **Local storage, handling, profit**

= Basis

- **Discounts**
  - – Class = HRW Ord. versus 12%
  - – Quality = dirt, chaff, other, etc.
- **+ Premiums**
  - – Class & Quality
- **= Expected Local Cash Price for specific commodity**

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Contracting Options

- **Cash Contracts**
- **Forward Contracts**
- **Futures Fixed Contracts**
- **Basis Fixed Contracts**
  - – **Local**
  - – **Destination**
- **Delayed Price Contracts**
- **Minimum Price Contracts**
- **Others??**

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Types of Contracts

Unraveling the Mystery

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Fixed Price Contract:

FUTURES + BASIS - (FREIGHT & MARGIN) = CASH

- Most common contract used by Montana elevators.
- The producer calls a local elevator and is quoted a cash price for a particular commodity for a nearby delivery period
- Locks in both the futures price and the basis, effectively transferring all price risk to the buyer.
- Shipment is usually “buyer’s call” (whenever the elevator can take the grain) during the contract delivery period and full payment is made upon delivery.

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Cash Fixed Price Contracts

FUTURES + BASIS - (FREIGHT & MARGIN) = CASH

- Most common contract used by Montana elevators.
- Elevator offers a cash price for a particular commodity for a nearby delivery period
- Locks in both the futures price and the basis
  - Effectively transfers all price risk to the buyer.
- Shipment is usually "buyer's call" during the contract delivery period
- Full payment is made upon delivery

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Cash Contracts:

ADVANTAGES	DISADVANTAGES
Easy, no complications.	Price locked in, can't participate in a market rally.
Cash price, quantity, and delivery are known.	Payment not received until grain is delivered.
Risk of price decrease is eliminated.	Possible penalty for cancellation.
No service or storage charges.	
All proceeds available on delivery.	
Income can be deferred.	

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Cash Forward Contracts

FUTURES + BASIS - (FREIGHT & MARGIN) = CASH

- **A forward contract is a cash contract that allows a producer to sell grain for future delivery.**
- **Although both futures and basis are set, premium and discount scales may or may not be able to be set until delivery.**
- **Example: Selling new crop grain many months before harvest if market conditions lead you to believe that prices will be lower at that time.**

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Forward Contracts:

Advantages	Disadvantages
Easy, no complications.	Price locked in, can't participate in a market rally.
Locks in price, no downside risk.	No payment until delivery.
Can take advantage of a carry market.	May not be able to lock in premium or discount scales.
No service charge.	Risk involved if production doesn't meet expectations.
Can defer income.	

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Futures Fixed Contracts (HTA)

FUTURES + BASIS - (FREIGHT & MARGIN) = CASH

- Allows the producer to lock in a futures price with the elevator
  - Basis is set at a later time.
- The elevator will establish a hedge in the futures on your behalf in exchange for delivery of the cash commodity at a set time.
- This contract is useful if futures prices are relatively high and market conditions lead you to believe that they will weaken and/or you think that there is room for improvement in basis levels.

Futures Fixed Contracts HTA, con'd.

FUTURES + BASIS - (FREIGHT & MARGIN) = CASH

- This contract will be complete when the producer sets the basis, which will determine the cash price.
- Basis must be set prior to delivery and while the contracted futures month is still being used by traders to calculate cash price.
  - Usually the 15th day of the month preceding contract expiration

Futures Fixed Contracts:

Advantages	Disadvantages
Limits downside futures price risk.	Can't participate in futures rally.
Can take advantage of basis improvement.	Downside basis risk.
No margin requirements to the farmer, since the elevator is carrying the position.	Must monitor basis levels closely to lock them in when high.
May be allowed to buy back the contract if you are unable to deliver.	Locked in to the elevator and required to deliver (unless allowed to buy back the contract).
May be allowed to roll the contract to a later month in the same crop year.	If grain is delivered prior to pricing basis, there may be service charges.
	This type of contract can only be executed during trading hours (8:30 a.m. to 12:15 p.m. MST)

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Basis Fixed Contracts

FUTURES + BASIS - (FREIGHT & MARGIN) = CASH

- In this type of contract, the producer locks in a favorable basis with the elevator
  - Leaves the futures price to be set later.
- Basis contracts are used successfully when the basis is at historically strong levels and market conditions lead you to believe that there is room for improvement in futures prices.
- It is important to ask your elevator manager for basis levels for more than the nearby futures month and to determine if storage costs warrant fixing the basis farther out.
- Delivery date and quantity will be negotiated with the elevator.

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Basis Fixed Contracts, con'd.

FUTURES + BASIS - (FREIGHT & MARGIN) = CASH

- Discounts and premiums are usually set at the time the basis is established, unless the sale is for new crop delivery.
- A basis contract allows the producer to collect a 70-75% advance on their final estimated payment upon delivery of the grain.
- If the deadline comes when you must lock in the futures price, but you want to leave the option open and allow for further possible futures price increase, you may roll the basis contract into a deferred futures month.
- If the deferred futures market has a carry built into it (the deferred price is higher than the nearby price) your basis contract will be reduced by the amount of that carry.
- If the deferred futures market is in an inverse (the deferred price is lower than the nearby month), the amount of the inverse will be added to your basis contract.

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Basis Fixed Contracts:

Advantages	Disadvantages
Eliminates downside basis risk.	Risk of futures price decrease. (If futures prices drop below the level used to calculate your advance, you may have to pay back a portion of the advance.)
Can take advantage of potential futures price increase.	Required to deliver grain as stated in contract.
Can collect an advance on delivered grain without locking in the final cash price.	Must track the futures and market trends to lock in a favorable futures price.
No storage costs.	Full payment is not made until the futures price is locked in.
By "rolling the basis" contract can remain unpriced for extended period of time.	

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NPE/Delayed/Deferred Price Contracts

NO PRICE ESTABLISHED

FUTURES + BASIS - (FREIGHT & MARGIN) = CASH

- **For this type of contract, the seller delivers and transfers ownership of his grain to an elevator without setting a sales price.**
- **No futures or basis are established until the contract is priced.**
- **You will want to discuss with your elevator manager if a service charge will be applied to this contract and if there is a time period that the grain must remain un-priced or a time limit on fixing a final price.**
- **It is also important to clarify if discounts and protein scales will be locked in at delivery or time of pricing.**

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NPE/Delayed/Deferred Price Contracts

Advantages	Disadvantages
Can ship grain immediately.	Unlimited downside price risk.
Can take advantage of futures and/or basis improvement.	Title of grain is transferred to the elevator.
Allows you to defer income.	No payment is made until contract is priced.
It may be possible to change an NPE contract to a basis fix contract, thus stopping service charges and allowing you to receive an advance.	May have to lock in discounts and protein scales.
	Service charges may apply.

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Minimum Price Contracts

(Option Contract):

FUTURES + BASIS - (FREIGHT & MARGIN) = CASH

- **Minimum price contracts are commonly used among producers as they are very simple to execute and have the least risk involved.**
- **The seller locks in his cash price, buys a call option to replace the amount of the sale, and delivers his grain.**
- **This strategy can be executed through your elevator or through a broker.**
- **The seller establishes the minimum price by subtracting the cost of the option from the cash sale price.**
- **He can choose to sell his option at any time before expiration, as long as it has value.**

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Minimum Price Contracts, cont.

- **Any premium that he collects from his option is then added to the original minimum price to arrive at the final selling price.**
- **Although a minimum price contract does not improve the final cash price in every case (option may expire worthless), the strategy reduces risk by eliminating the downside exposure.**
- **The advantage to a minimum price contract is that once the seller locks in his cash price, he is no longer exposed to adverse market movement.**
- **If the futures market moves higher after the cash sale, he can still participate in that move through the call option.**

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Minimum Price Contracts, cont.

- The increase in the value of the call will be added to his net selling price once he sells the call.
- The disadvantage of a minimum price contract is that the seller can no longer take advantage of an increase in the basis since he has locked in the cash price, and the call only reacts to futures price movements.
- Also, time decay will erode the call's value as it approaches its expiration date, which will partially offset increases in value due to rallies in the futures.

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Minimum Price Contracts:

Advantages	Disadvantages
No downside price risk.	Can't take advantage of basis appreciation.
If futures rally, you receive increase in option value.	Cost of option can be expensive depending on length of expiration date and strike price used.
Full payment (at established minimum price) is received when grain is delivered.	The value of an option does not move 1 for 1 with the futures market.
	If futures fail to strengthen, contract will expire and the minimum price will be the final price.
	This contract can only be executed during trading hours (from 8:30 am to 12:15 pm MST).

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Conclusions

- Marketing in a volatile environment is even more important than “normal” times
- Keep informed daily on local and global market conditions
- Knowing your cost of production may help you implement your marketing plan

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Risk Management Strategies Utilizing Combo Insurance Plans, Futures & Options

Duane Griffith
Montana State University - Emeritus

http://www.montana.edu/softwaredownloads/financialmgtdownloads.html

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Analysis Software --- Written by:

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Two Case Farm Examples

- **Winter Wheat**
  - Hill County dry land with crop fallow rotation
  - APH yield is 50 bu. per acre
  - Producer selected 75% yield coverage level
  - RMA Projected Harvest Price is **$8.79** per bu.
  - Premiums: YP = $21.20, RP-HPE = $22.95, RP = $26.89
- **Sprint Wheat**
  - Hill County dry land with crop fallow rotation
  - APH yield is 40 bu. per acre
  - Producer selected 75% yield coverage level
  - RMA Projected Harvest Price is **$8.44** per bu.
  - Premiums-75% YP = $15.67, RP-HPE = $16.24, RP =$18.28

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Three Combo Plan Trigger Levels

- Yield Trigger Level
- RMA Projected Harvest Price
- RMA Harvest Price

- All possible Combinations of these Triggers

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Risk Management Strategies

- Combo Plans (Yield and Price)
  - YP, RP-HPE, RP
- Traditional Marketing Tools (Price Only)
  - Hedge, Puts, Calls
  - Combinations of Traditional Marketing Tools
- Combinations of Insurance and Traditional tools
  - Explore the Coverage Gaps
- Combo Plans **versus** Traditional Tools

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Yield Protection (YP)

- Yield Protection plan of insurance replaces APH plan of insurance
  - For crops with Commodity Exchange price discovery
- Uses **RMA Projected Harvest Price** to determine insurance coverage
  - RMA average of futures prior to sales closing date
  - Futures market used and time period averaged varies by commodity and location

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YP Guarantee for Base Case –Winter Wheat

- APH yield is 50 bushels
- Yield coverage level selected is 75%
  - Yield coverage level is 37.5 bushels
- **RMA Projected Harvest Price** is $8.79
- Revenue Guarantee is
  - $8.79 x 50 bu. x 75% = **$329.63**
- Indemnity payments received only when yield falls below 37.5 bu. (50 * 75%)
- Price is locked in at $8.79

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Revenue Protection with Harvest Price Exclusion (RP-HPE)

- Revenue guarantee established using RMA Projected Harvest Price and producer selected yield coverage level
- Indemnity payment is triggered with any combination of yield and price below the revenue guarantee:
  - Actual yield above or below the yield coverage level selected **times**
  - RMA Projected Harvest Price (locked in)

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Our Base Case for RP-HPE – Winter Wheat

- RMA Projected Harvest Price is $8.79 for WW
- APH yield is 50 bushels
- Yield election is 75%
- **Guarantee** is $8.79 x 75% x 50 = **$329.63**

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Revenue Protection (RP)

- Allows increase in the revenue guarantee if the RMA Harvest Price increase above the RMA Projected Harvest Price
  - Guarantee based on the higher these two components
- Indemnity payment triggered with *any combination* of price and actual yield less than the revenue guarantee
  - Price is higher of RMA Projected Harvest Price **or** RMA Harvest Price capped @ 200% of Projected Harvest Price
  - Yield = Actual yield

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Revenue Protection (RP) – Winter Wheat

- RP has minimum and maximum levels
  - RMA Projected Harvest Price times APH Yield times coverage level selected.
    - Established prior to sales closing date for each commodity
    - $8.79 times 50 times 75% = **$329.63** per acre
  - RMA Harvest Price times producers actual yield
    - Capped at 200% of the RMA Projected Harvest Price
    - $17.58 times 50 bushels times 75% = **$659.25** maximum per acre guarantee

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Spring Wheat Case Farm Numbers

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YP Guarantee for Base Case - Spring Wheat

- APH yield is 40 bushels
- Yield coverage level selected is 75%
  - Yield coverage level is 30 bushels
- **RMA Projected Harvest Price** is $8.44
- Revenue Guarantee is
  - $8.44 x 40 bu. x 75% = **$253.20**
- Indemnity payments received only when yield falls below 30 bu. (40 * 75%)
- Price is locked in at $8.44

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Our Base Case for RP-HPE – Spring Wheat

- RMA Projected Harvest Price is $8.44 for Spring Wheat
- APH yield is 40 bushels
- Yield election is 75%
- **Guarantee** is $8.44 x 75% x 40 = **$253.20**

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Revenue Protection (RP) – Spring Wheat

- RP has minimum and maximum levels
  - RMA Projected Harvest Price times APH Yield times coverage level selected.
    - $8.44 times 40 times 75% = **$253.20** per acre
  - RMA Harvest Price times producers actual yield
    - Capped at 200% of the RMA Projected Harvest Price
    - $16.88 times 40 bushels times 75% = **$506.40** maximum guarantee per acre

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WW – Combo, Futures, Options Risk Management Case Farm

SW – Combo, Futures, Options Risk Management Case Farm

Exploring the Software

- A number change <u>anywhere</u> changes that number <u>everywhere</u>.
- Set all ***<u>Plan</u>*** premiums to zero
- Set RMA Harvest Price <u>above</u> and <u>below</u> RMA Project Harvest Price
- Vary yields at all price levels
  - Where does RP pay above chosen yield level
- Use Buy Up Calculator
  - Adjust Yield coverage level selected

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Questions

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Futures, Options, LRP Compared

Duane Griffith & Jim Johnson
Montana State University Extension

The software demonstrated today can be downloaded/used at the web site below.
http://www.montana.edu/softwaredownloads/livestockdownloads.html

RMA
University of Wyoming
Profitable & Sustainable Agricultural Systems
UW Cooperative Extension Service
RightRisk
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Livestock Risk Protection

- Feeder Cattle
- Fed Cattle
- Swine
- Lamb
- All these types of livestock are covered by LRP in all Montana and Wyoming counties.

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Relevant Comparison: Futures, Options, LRP

- Compare as equal a price level as possible
  - The objective is to compare the costs of down side price protection with these products.
  - Start off with a set of initial conditions provided by the Futures and Options markets.
    - These determine the LRP Coverage level available.
    - Futures versus Strike Price versus LRP Coverage Level
  - If you change any one of these initial conditions, it implies a change in the information provided by the other markets.

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Examples are Using Livestock Risk Protection for Feeder Cattle

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Example Initial Conditions

- October Feeder Futures as of **3-8-2013** was $153.00
  - + $6.50 expected basis, minus $**.35** brokerage and interest = **$159.15** Local net cash price
- October Put Options: used $152.00 Strike price
  - + $6.50 expected basis minus $4.83 premium minus $.34 brokerage and interest = **$153.33** Local cash price
- LRP Coverage price **Steers Weight 1**: 34 weeks out was **$166.35**
  - LRP coverage ends **11-1-2013**
  - Premium is $5.99 ($5.21 with 13%, subsidy)
  - Total Premium and trading cost are $5.43
  - Estimated Floor price with LRP is **$160.92**
    - $166.35 – ($5.21 + $.22)
- Producer still subject to Basis Risk (Cash – Futures)

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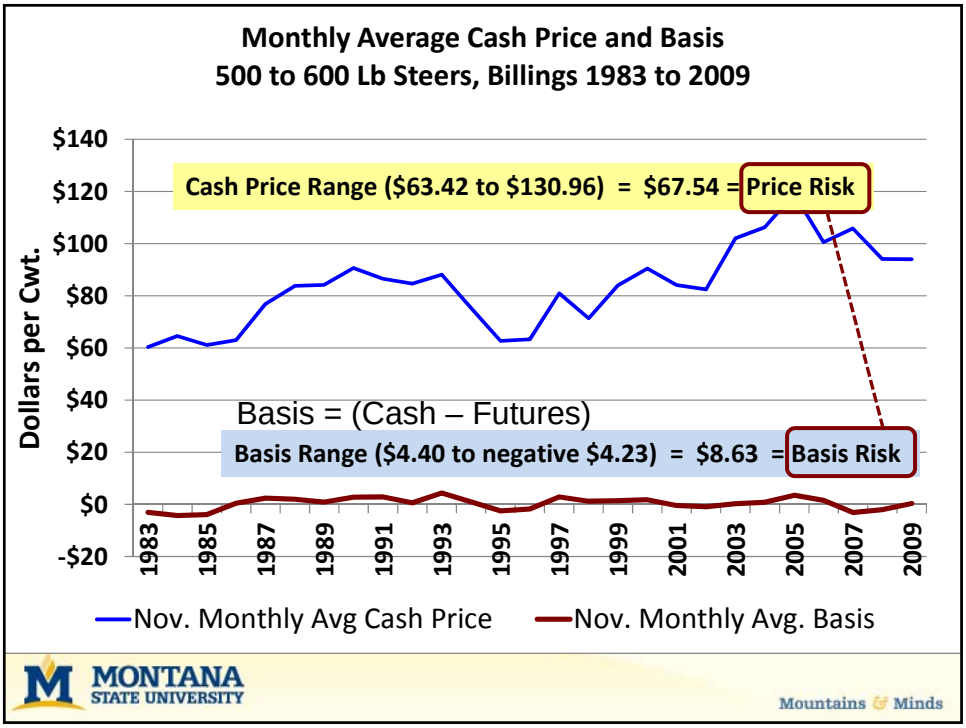

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Comparing Pricing Alternatives

- All three are based on the futures markets
- All three use very similar information
- All three have their own specific requirements
- All three provide coverage for a single peril, price risk
- None eliminate other risks such as
  - Basis, Sickness, dead loss, disasters, etc.

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Pros for **Futures**

- Can minimize transactions costs, *if everything goes as planned*, (actual results equal expected results)
- Trades daily so provides widest selection of price protection levels to choose from
- Allows implementation of "automatic" transactions when working with a broker
  - Automatic marketing orders for sell or buy
  - Eases worry about the need for constant contact with markets and broker
- Provides an opportunity to get to know your lender **very well**
- Maybe long conversations with your spouse

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Cons for **Futures**

- Lumpy – Contract Size (Feeders = 50,000 lbs)
- Margin calls and additional transaction costs
- Broker's knowledge of specific markets and commodities, grains vs livestock
- Locks in Price Both Ways
  - Eliminates capturing benefits of advantageous price moves
- Producer still subject to **Basis Risk**
  - Basis is (Local Cash price – Futures price)

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Pros for **Options** (Puts and Calls)

- Locks in price in only one direction
  - Put = price floor = protects against falling prices
  - Call = price ceiling = protects against rising prices
- Eliminates margin call worries
- Paying premium and brokerage fees is a one time transactions costs
- Interaction with broker minimal
  - Option expires worthless, no need to talk to broker
  - Tell broker to exercise/offset option if it has value

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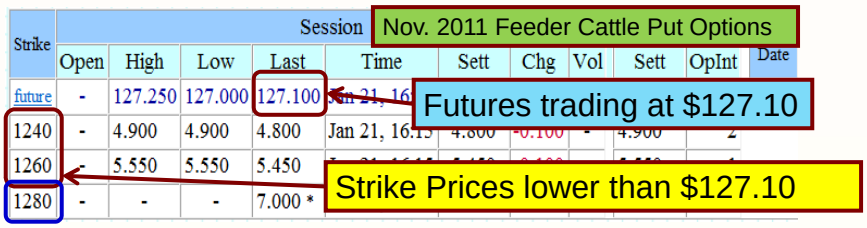
Cons for **Options**

- Coverage is Lumpy by contract size (50,000 lbs)
- Price protection alternatives are less



Strike	Session									
	Open	High	Low	Last	Time	Sett	Chg	Vol	Sett	OpInt
future	-	127.250	127.000	127.100	Jan 21, 16:					
1240	-	4.900	4.900	4.800	Jan 21, 16:15			-	4.900	2
1260	-	5.550	5.550	5.450						
1280	-	-	-	7.000 *						

- May not be available when you need it
  - Not trading out far enough
- Producer subject to **Basis Risk**
  - **Basis = (Cash – Futures)**

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Pros for **LRP**

- Can cover small number of head
- Not lumpy like futures and options contracts
- Insurance coverage can be transferred to a new owner if livestock are sold before the end date.
  - New owner must meet eligibility requirements
- Can purchase this insurance daily after markets close
  - 3:00 pm until 9:00 am the following morning
- One time only transaction at purchase
- Settles to daily ***CME Cash Feeder Cattle Index*** **adjusted by RMA Price Adjustment Factors (PAFs)**

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Adjustment Factors Built In To LRP Coverage Levels

	Price Adjustment Factors (PAFs)			
Weight Range	Steers	Heifers	Predominantly Brahman	Predominantly Dairy
< 6.0 Cwt	110%	100%	100%	85%
6.0 to 9.0 Cwt	100%	90%	90%	80%

These factors are applied to the Futures/Options prices the RMA uses to produce the daily LRP price coverage levels listed on the web.

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Partial LRP Report – 3-8-2013

Endorsement Length	Type	Crop Year	Exp. End Value	Coverage Price	Coverage Level	Rate	Cost Per CWT	End Date
13	809 Steers Weight 1	2013	160.321	$159.72	0.9963	0.030854	4.928	6/7/2013
21	809 Steers Weight 1	2013	165.045	$160.04	0.9697	.023837	3.815	8/2/2013
21	809 Steers Weight 1	2013	165.045	$153.44	0.9297	0.011592	1.779	8/2/2013
34	809 Steers Weight 1	2013	169.294	$166.35	0.9826	0.036011	5.99	11/1/2013
34	809 Steers Weight 1	2013	169.294	$164.15	0.9696	0.030363	4.984	11/1/2013
34	809 Steers Weight 1	2013	169.294	$153.15	0.9046	0.011793	1.806	11/1/2013

Pros for **LRP**, cont.

- Do not have to do anything in the markets at termination of insurance period
- Receive Indemnity payment when **Adjusted *CME Cash Feeder Cattle Index*** is less than **LRP Coverage price**
  - Price adjustments by type and weight are built in to LRP coverage levels listed on the web
  - File claim within 60 days on end date
- Widely available from insurance agents, **but…**
- 13% Subsidy provided by RMA
- Do not have to sell your livestock at the end of the insurance period
  - Can reinsure livestock that are held over for another period.

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Cons for **LRP**

- Limited coverage time slots
  - 13, 17, 21, 26, 30, 34, 39, 43, 47, or 52-week periods
- Can not sell **or** transfer ownership prior to 30 days before the end of the "Specific Coverage Endorsement"
  - **A forward contract is not selling or transferring ownership**
- Limited selection of coverage levels
- Producer Must establish eligibility at the time insurance is purchased
  - Ownership, number of head, type of livestock, finish date
- Limit of 1,000 head per endorsement & 2000 head annually
- No Off-setting Transactions allowed
  - Offset LRP position in the futures and/or options market
  - Offset = Buying a Call Option

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LRP—Feeders, Steers Weight 1

Contract Data	Value	Calculation
Number of Steers	100 hd	Producer
Expected Weight	5.80 lb	Producer
Current Date	March 8, 2013	Producer
Marketing Date	November 1	Producer
Insurance Period	34 weeks	Producer
Expected Ending Value	$169.294 cwt	RMA
Coverage Level	98.26%	Producer
Coverage Price	**$166.35/cwt**	**RMA**

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LRP—Feeders Steers Weight 1

Feeders, July 13, 2011		
Contract Data	**Value**	**Source**
Insured Value	$96,483	100 hd x 5.80 cwt/hd x **$166.35**/cwt
Premium Rate	0.036011	RMA
Total Premium	$3,474.20	$96,483 x 0.036011
Subsidy Rate	13%	RMA
Subsidy Amount	$451.65	$3,474 x 0.13
Producer Premium	$3,022	$3,474 – $452

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LRP Steers Weight 1

- Suppose the producer actually sells 100, 580 pound steers on Nov. 1, for $168.00/Cwt
- The **Unadjusted** CME Feeder Cattle Cash Settlement Index ending value was $150.00/cwt.
- **Adjusted** CME Index Value is $165.00
- Will the producer receive an indemnity?

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LRP Example-Steers Weight 1

- Yes, $165.000 is less then $166.350
- Indemnity calculation
  - 100 head x 5.80 cwt/head x $1.35 = $783.00
    - $1.35 =($166.35 - $165.00)
- Revenue from calves
  - 100 x 5.80 cwt/head x $168.00 = $97,440.00
  - Plus indemnity of: + 783.00
  - Less producer premium of: - 3,023.00
  - Less transaction costs (.22*5.80*100) - 127.60
  - Net revenue (rounded): =$95,072.00

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Summary LRP vs Options,

- LRP & Put Options both protect against downside price risk.
  - For LRP, the selected "coverage price" minus the premium and interest/transaction costs is the producer's price floor.
  - For Options, the selected "strike price" minus the premium minus trading cost is the producer's price floor.
- Both LRP & Options require the payment of a premium.
  - LRP—premium is paid to an insurance agent.
  - Option—premium is paid to a broker.
- Both LRP & Options have transactions costs

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Summary LRP vs Options

- Payouts are received when the **CME Feeder Cattle Cash Settlement Price Index (Adjusted by the PAFs)** declines below the RMA coverage level selected
  - LRP- Contact your Agent to claim Indemnity
- Options- Option premium increases in value when Futures is trading below the Strike price selected
  - Have your broker offset or exercise the option
- LRP and Options are subject to basis risk.

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Summary LRP vs Options

- Neither product protects the producer from a decline in the producer's *cash sale price*.
  - Producer is subject to ***basis risk*.**
- Subsidies are not available for option premiums.
- No price adjustments for varying weights built into Options
  - LRP uses Price Adjustment Factors (PAFs)
  - Basis accounts for weight differences in the futures/options markets

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Summary LRP vs Options

- Advantages of Options relative to LRP:
  - A producer may buy higher price coverage levels than LRP if they purchase an In-the-Money Option.
  - LRP coverage levels always "out-of-the-money"
    - Coverage level less than current futures price
  - Option has more timing flexibility
    - Producer may sell an option prior to expiration.
    - Producer can re-purchase an option at any time

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Livestock Gross Margin (LGM)

- Another insurance product available to insurance Finished animals
- Insures both the value of the animal and the feeding costs of the animal
- More information is available if you are interested

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Information Sources

- Futures and Options
  - TFC Charts – Third party
    - http://tfc-charts.w2d.com/menu.html
  - CME and CBT
    - http://www.cmegroup.com/trading/commodities/
  - KCBT –Kansas City Board of Trade
    - http://www.kcbt.com/index.asp
- LRP Daily Coverage Prices
  - RMA= Risk Management Agency
  - http://www3.rma.usda.gov/apps/livestock_reports/
- Software
- http://www.montana.edu/softwaredownloads/livestockdownloads.html

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Questions

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Developing Risk Management Strategies

Duane Griffith
Montana State University - Emeritus

Wyoming – March 2013

RMA

University of Wyoming

Profitable & Sustainable Agricultural Systems
UW Cooperative Extension Service

RightRisk

Montana State University

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The Markets and YOU

- The Markets
  - Protect against price decreases (increases) in Global markets
  - Supply, Demand, Weather, Politics, etc.
- You
  - Risk Manager or Speculator
  - **YOU speculate** on anything that is not locked in
  - Worry about price, basis, financial health
- Time before commodity harvested
  - Effects your assessment of strategies available or that you are willing to employ
  - Determines possible points of implementation

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Pricing Alternatives

Pricing (marketing) is not about affecting your local price, it is about taking a good price when it is offered

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Types of Risk Factors

	Futures	Basis	Premium	Production
Futures		X		X
Options		X	X	X
Remain Un-Priced	X	X		X
Forward Basis Contract	X			X
Minimum Price Contract			X	X
Forward Cash Price				X
Yield Protection				**Some**
RP-HPE				**Some**
Revenue Protection				**Some**

Remaining Un-priced

- Advantages
  - Not committed to deliver a crop you could not produced due to weather, etc.
  - Get to enjoy price increases
- Disadvantages
  - Subject to all four types of price risk
  - Business/family financial health may be at risk

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Price Decreasing

- **Sell** Futures
- *or* **Buy Put** Option (**PS**)
- *or* Forward contract
  - Lock in Price and/or Basis
- *and/or* Insurance
  - Combo policies for grain
  - LRP or LGM policies for livestock

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Price Increasing

- **Buy** Futures
- or **Buy Call** Option (**CB**)
- or Forward contract
  - Lock in Price and/or Basis
  - Contract other inputs (corn silage, corn, etc.)
- *and/or* Combo Revenue Protection (RP) insurance
  - Protects against missing out on price increases

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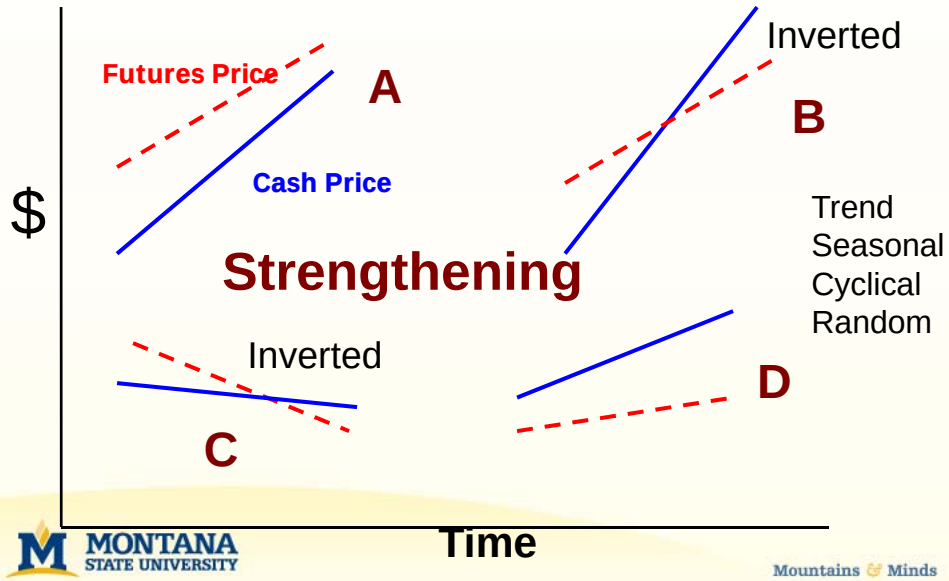
Basis & Markets Signal Action Needed



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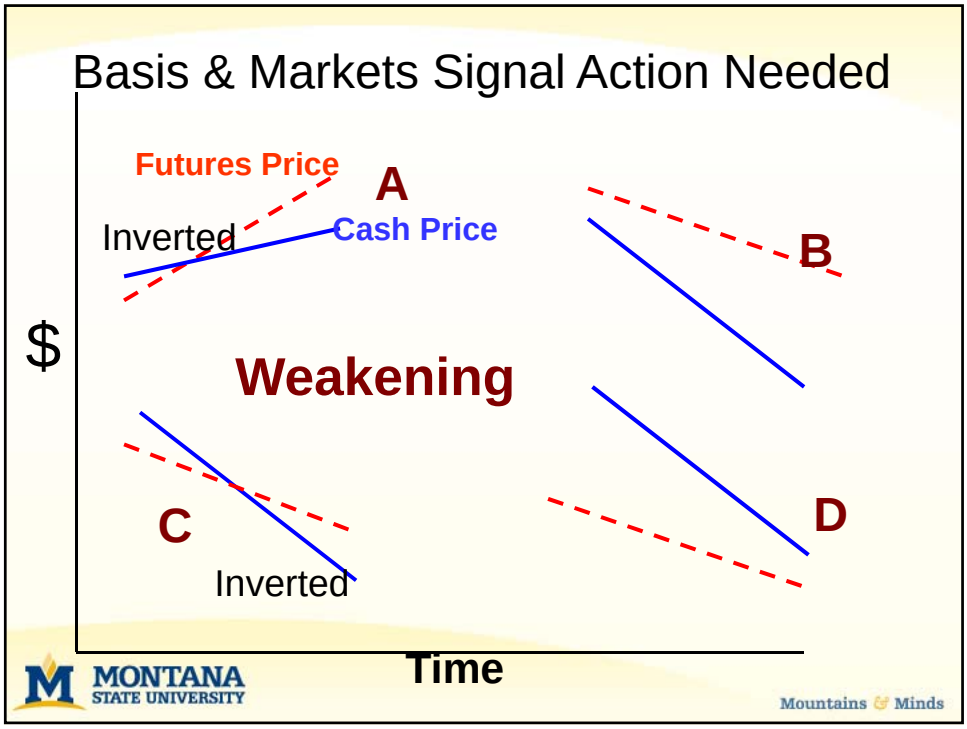
Basis & Markets Signal Action Needed
Futures Price
A
Inverted
Cash Price
B
$
Weakening
C
D
Inverted
Time
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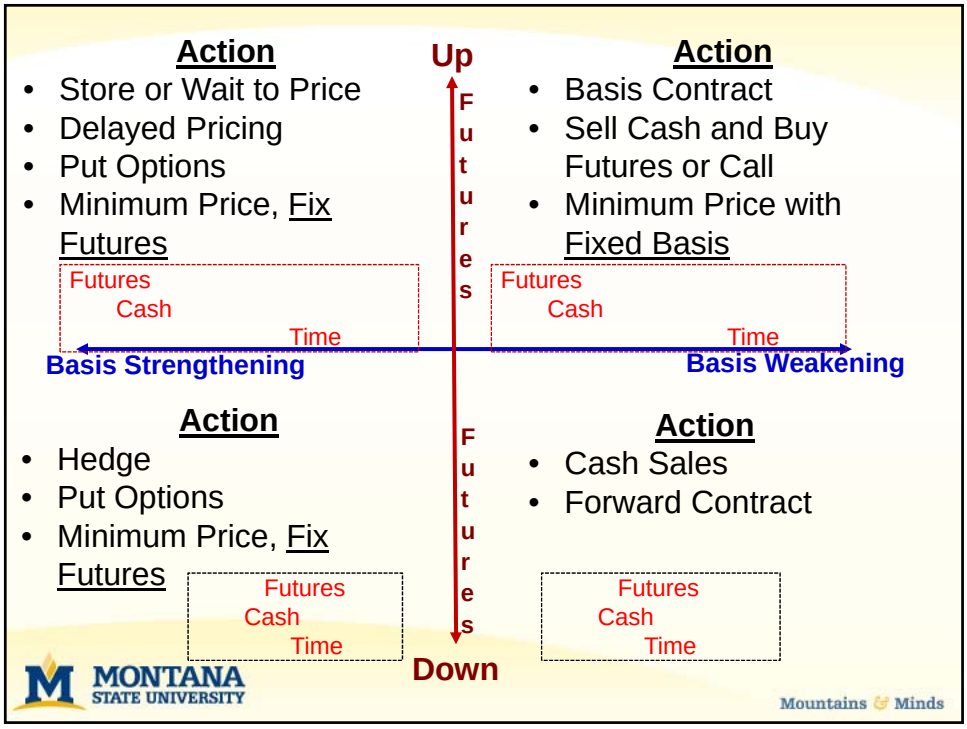
Action
Store or Wait to Price
Delayed Pricing
Put Options
Minimum Price, Fix Futures
Futures
Cash
Time
Basis Strengthening
Up
Futures
Action
Basis Contract
Sell Cash and Buy Futures or Call
Minimum Price with Fixed Basis
Futures
Cash
Time
Basis Weakening
Action
Hedge
Put Options
Minimum Price, Fix Futures
Futures
Cash
Time
Futures
Down
Action
Cash Sales
Forward Contract
Futures
Cash
Time
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Risk Management Tools

- Combo Insurance Plans
  - YP, RP-HPE, RP
- Traditional Marketing Tools
  - Hedge, Puts, Calls, Forward Contracts
  - Combinations of Traditional Marketing Tools
- Combinations of Insurance and Traditional tools
  - Explore the Coverage Gaps
- Combo Plans **versus** Traditional Tools

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Build Risk Management Strategies

- Identify types of price risks you want to address
  - Local Cash Price = (Futures + Basis)
  - Yield
- Evaluate combinations of Combo Plans & marketing alternatives
  - Combo RP plan
  - YP with Cash or Forward contracts and Call options
- Add additional price protection to Combo plans using Futures/Options if the market offers
  - Add Put option to YP if market price allow (**Hedger?)**
    - Explore coverage Gaps
  - Call options if production is going to be issue

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Strategies Implementation

- Futures and Options Markets
  - Straight Hedge
  - Put Options for down side risk
  - Call Options for upside risk
    - Only works with regional/global problems
- Insurance
  - Combo Policy
  - **RMA Projected Harvest Price** for WW
    - Could have establish a floor price for winter wheat in Wyoming for $8.79, before Sept. 30, 2012
    - RP cap is $17.58 per bu.
    - KCBT currently trading at ~~$7.75

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Potential Costly Strategies

- Letting the Markets tax you
  - Marketing to avoid taxes
- Marketing to manage cash flow needs
- Not Marketing
- These strategies could double your tax rates
  - Market value loss on top of regular taxes

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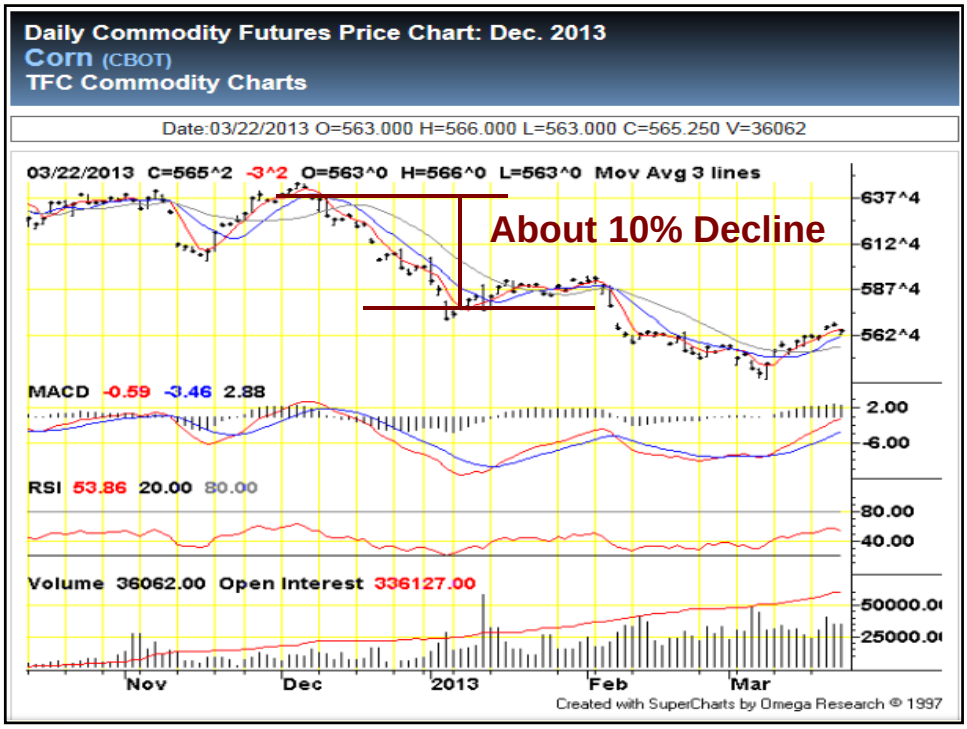
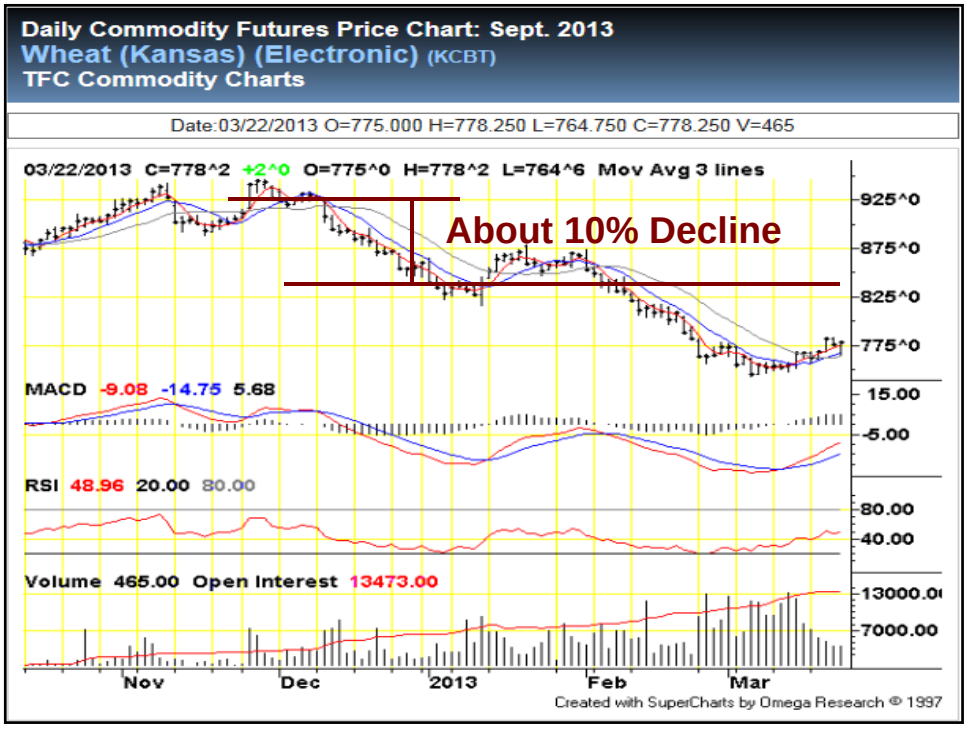
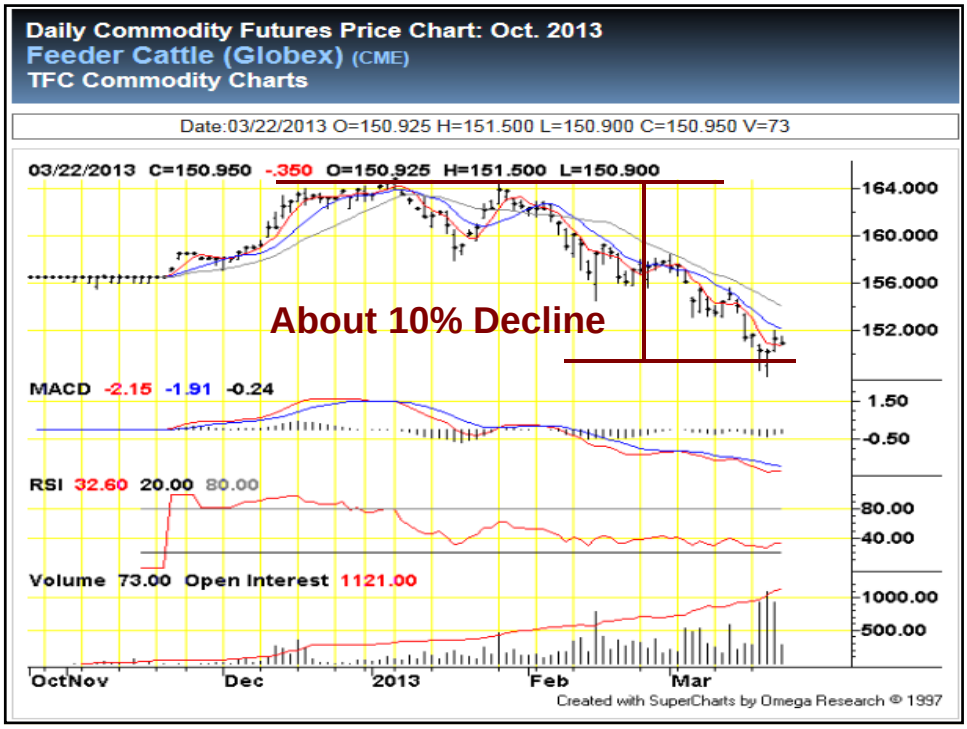

Daily Commodity Futures Price Chart: Dec. 2013
Corn (CBOT)
TFC Commodity Charts
Date:03/22/2013 O=563.000 H=566.000 L=563.000 C=565.250 V=36062
03/22/2013 C=565^2 -3^2 O=563^0 H=566^0 L=563^0 Mov Avg 3 lines
About 10% Decline
637^4
612^4
587^4
562^4
MACD -0.59 -3.46 2.88
2.00
-6.00
RSI 53.86 20.00 80.00
80.00
40.00
Volume 36062.00 Open Interest 336127.00
50000.0
25000.0
Nov
Dec
2013
Feb
Mar
Created with SuperCharts by Omega Research © 1997


Daily Commodity Futures Price Chart: Sept. 2013
Wheat (Kansas) (Electronic) (KCBT)
TFC Commodity Charts
Date:03/22/2013 O=775.000 H=778.250 L=764.750 C=778.250 V=465
03/22/2013 C=778^2 +2^0 O=775^0 H=778^2 L=764^6 Mov Avg 3 lines
About 10% Decline
925^0
875^0
825^0
775^0
MACD -9.08 -14.75 5.68
15.00
-5.00
RSI 48.96 20.00 80.00
80.00
40.00
Volume 465.00 Open Interest 13473.00
13000.0
7000.00
Nov
Dec
2013
Feb
Mar
Created with SuperCharts by Omega Research © 1997



Using Available Tools

- Comfort level with risk protection tools
- Marketing team includes yourself, spouse, lender, partners, etc.
- Assign responsibilities
  - Insurance expert/evaluator
  - Market watcher
  - Financial manager/expert
  - Others _____

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Exercises – Develop Strategies

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QUESTIONS

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Estimating Enterprise Cost Of Production

The Process and Using Your Results

Duane Griffith, Extension Farm Management Specialist, March 2013

RMA

University of Wyoming

Profitable & Sustainable Agricultural Systems
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Estimating or Measuring

- Estimating
  - Preproduction
  - Estimate what income and expenses might be
  - Useful for decision making and management
- Measuring
  - Track and use actual historic costs
    - Actual Operating Cost
    - Actual Fixed Costs
  - Requires very detailed records
    - Imagine allocating repair costs for each piece of equipment between enterprises

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Time Frame for Decision Making

- Costs considered depend on the planning horizon
- Short run (one production period)
  - Some costs are fixed
    - Taxes, depreciation, insurance, interest
  - Some costs can vary
- Long run (more than one year)
  - **All** costs can vary

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Two **Types of Costs**

- Operating costs = Variable Costs
  - Fuel, Repairs, Seed, Fertilizer, Chemicals,…
- Ownership costs = Fixed Costs
  - Depreciation, Interest, Taxes, Insurance, (DITI)

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Relevant Short Run Costs

- Operating or Variable costs are **the only relevant** short run costs
  - Vet and Med, Feed, Fuel, Oil, Repairs, Interest on operating, etc.
- Operating costs vary with the level of production
  - Per unit (per horse, per acre, per cow) costs are typically the same
  - Each additional unit costs money, so greater total costs
- When you start production, costs are incurred

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Long Run Costs

- Ownership costs are those associated with owning a capital asset
  - (DITI) Depreciation, Interest on investment, Taxes, Insurance
  - In the short run, ownership costs are of a **fixed** nature and should be ignored for short run decisions
- Can avoid Operating Costs but will still pay DITI
- Fixed costs should not be included in short run decision making
- In the Long Run, All costs are variable

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We Have Been Using the Word **Costs**

- Tend to be very careless with terminology
- Can result in very misleading information
  - Business:
    - Income and Expenses
    - Loan principal payments for business assets
      - Is an outflow, not an expense
    - Depreciation = noncash expense
  - Nonbusiness
    - Family living, retirement planning, etc.

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How We Use The Word "**Costs**"

- Cost = Cash Outflow = Expense
  - Vet & Med, Repairs, Fuel, etc.
- Cost = Cash Outflow ≠ Expense
  - Principal portion of loan payments
  - Cash to purchase a capital asset
    - Machinery & Equipment, Breeding stock
- Cost = Expense ≠ Cash Outflow
  - Depreciation, Accounts Payable

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The Revenue Side of Terminology

- Revenue = Cash Inflows = Income
  - Cash sales of animals, feed, grains
- Revenue = Income ≠ Inflows
  - Accounts Receivable

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Three Ways to Estimate/Measure Costs

- Economic Approach
- Financial Approach
- Cash Flow Approach

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What is Included/Excluded From Estimates

Debt Free Versus 60% Debt Load

		Cost/Lb
Financial	1-Accounting (Tax) Based: Cash **Income** and **Expenses** 2-Allowable Non-Cash Income and Expenses; uses Tax/Book Depreciation	**$1.10**
Economic	1-Focus on Income and Expense 2-Includes both cash and non-cash items 3-Uses substitutes for actual expenses; opportunity costs & economic depreciation	**$1.00**
Cash Flow	1-Uses Cash **Inflows** and **Outflows** 2-Ignores non-cash income and expenses 3-Includes cash flows that are not an income or an expense **(Family Living, Principal Payments)**	**$1.40**

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Economic Cost of Production

- Calculated using estimates for cash and non-cash *income* and *expense*
  - Not the same as cash inflows and outflows nor "financial" analysis
    - Does not include principal payments
  - Enterprise budgeting approach
- Estimates used for some expenses:
  - Interest on operating
  - Interest on real estate

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Financial Cost of Production

- Uses actual *income* and *expenses* incurred as determined by accounting/tax practices
  - Cash and non-cash income and
- Examples:
  - Actual cash interest, fuel expense, repairs, etc.
  - Actual tax depreciation claimed
  - Etc., etc.
- Calculated after production takes place
- Provides historic measure of business performance

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Cash Flow Cost of Production

- Only cash inflows and outflows are used
- Excludes depreciation and other non-cash costs such as Opportunity costs
- Cash flow includes items that are not *income* or *expenses*
  - Principle payments (Debt Load)
  - Family living/contributions (Family Units/Size)
- Can be estimates or actual **inflows** and **outflows**
- Different than **income** and **expense**

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Which Method To Use?

- What are objectives in making a cost of production calculation?
  - Family decisions, (what can operation support)
  - Optimize enterprise mix, …..
  - Satisfy your lender(s)
- What is the time frame (short or long run)?
- What information is available to make the calculations?

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Decision Making: Simple Versus Complex

- Short Run
  - Retained ownership for calves
  - Cover debt load obligations
- Long Run
  - Cost of production practices (tillage systems)
  - Change enterprise mix
  - Bring kids back to operation (or get rid of some)
  - Retirement and/or estate planning

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Procedures/Tools for Cost Estimation

- Whole Farm/Ranch budgeting
  - What is your entity or reporting unit
    - Acre, Enterprise, Whole Farm
- Enterprise budgeting
- Analysis of specific activities
  - Machinery costs and custom rates
  - Own versus lease
    - Land, Machinery, Other Capital Assets
  - Risk protection strategies/effectiveness
    - Marketing Alternatives for Commodities

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Software Available to Help With Estimates

http://www.montana.edu/softwaredownloads/

- Financial and Risk Management
- Machinery Management
- Crop Production, Finance & Marketing
- Livestock & Forage Production
- Marketing
- Energy

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QUESTIONS

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