

Managing Buy Sell Margins for Feeder Cattle

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Definitions

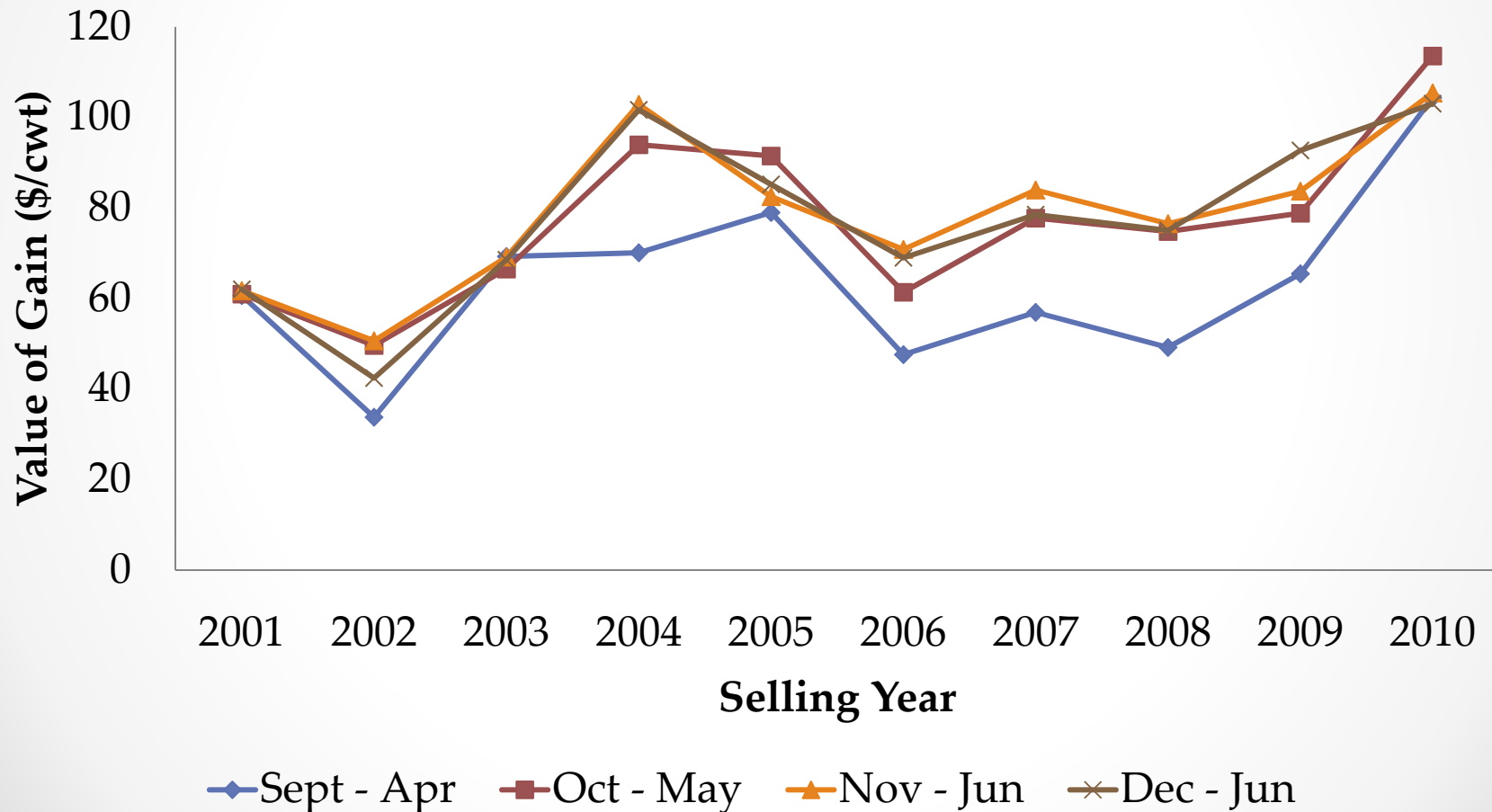
- Stocker price = price of lightweight calf approximately 300 to 500 lbs
- Feeder price = price of yearling sold following stocker program

Key to Profitability

- Value of gain exceeds cost of gain
- Value of gain
 - Total value of yearling feeder less total value of stocker calf divided by the total weight gained

Comparison of Value of Gain

Based on Purchase Month for 450 lbs. M-1 Steers Sold at 750 lbs., 200 days, Based on TN prices



Price Risk

- Is there risk in the market?
 - 1973-2010 – three times there was a negative buy sell margin for fall bought 450 lbs steers sold at 750 lbs the next summer
- Fall 2006 & 2008
 - Corn price rose sharply
 - \$25 to \$30 negative margin

Value of Gain

- Equal to selling price when buying price and selling price are equal
- Value of gain increases when feeder price increases
- As the buy sell margin decreases, value of gain increases

Value of Gain at Various Buying (400 lb steer) and Selling (750 lb steer) Prices

Stocker Price	Feeder Price								
	\$1.00	\$1.05	\$1.10	\$1.15	\$1.20	\$1.25	\$1.30	\$1.35	\$1.40
\$1.00	100.00	110.71	121.43	132.14	142.86	153.57	164.29	175.00	185.71
\$1.10	88.57	99.29	110.00	120.71	131.43	142.14	152.86	163.57	174.29
\$1.20	77.14	87.86	98.57	109.29	120.00	130.71	141.43	152.14	162.86
\$1.30	65.71	76.43	87.14	97.86	108.57	119.29	130.00	140.71	151.43
\$1.40	54.29	65.00	75.71	86.43	97.14	107.86	118.57	129.29	140.00
\$1.50	42.86	53.57	64.29	75.00	85.71	96.43	107.14	117.86	128.57
\$1.60	31.43	42.14	52.86	63.57	74.29	85.00	95.71	106.43	117.14
\$1.70	20.00	30.71	41.43	52.14	62.86	73.57	84.29	95.00	105.71
\$1.80	8.57	19.29	30.00	40.71	51.43	62.14	72.86	83.57	94.29

Source: "Why Steers? Why Now?" Kevin Moore & Jim Gerrish, Univ. of Missouri-Columbia

Why Not Always Lock in the Price?

- By locking in the price early, either with futures hedge or forward contract
- Average returns are lower
- By taking out low prices, one also takes out high prices
- Research by McLemore and Rawls, Tennessee and Fuez, Utah State University

Purpose

- To Demonstrate the Buy/Sell Margin Calculator
- To Illustrate some price risk management strategies which help one to manage sale price, buy/sell margin and value of gain

Buy/Sell Margin Calculator

- Using historical data for the previous 10 years, it allows one to review what the buy/sell margin and value of gain have been for differences in feeder cattle such as
 - Sex, weight, grade or grade mix and specific months of purchase and sale of cattle



Ways to Improve Buy/Sell Margin and Value of Gain

- Buy bull calves at a discount
- Buy calves that will up grade
 - Buy 50% No. 1 and 50% No. 2
 - Sell 75% No. 1 and 25% No. 2
- Buy heifers instead of steers
 - Lightweight heifers are discounted more than heavier weight heifers
- Depending on the year it is not uncommon for Fall bought heifers to sell very close to the purchase price in Spring
- Purchase as singles and sale in loads
 - Downside = more health issues

Managing the Buy/Sell Margin and Sale Price

- Evaluate the marketing method
 - Direct or private treaty sale
 - Video/Board Sale/Internet
 - Commingled Sale
- Factors affecting shrink, sort, transportation, price slide, commission and guaranteed payment

Managing the Buy/Sell Margin, Value of Gain & Sale Price

- Both the buy/sell margin and sale price affect value of gain (VOG)
- Correlations with VOG
 - Buy/sell margin & VOG = 0.52
 - Sale price and VOG = 0.72

Managing Risk of Sale Price

1. Hedge in futures market
2. Forward contract (private or auction)
3. Put option
 - Sets floor price
4. Synthetic put
 - Use of hedge or forward contract and a call option
5. Fence
 - Set a floor price with a put option and ceiling price with sale of a call option
 - A way to set a higher floor price at a lower premium cost
6. LRP Insurance

What Did the Market Offer on August 4?

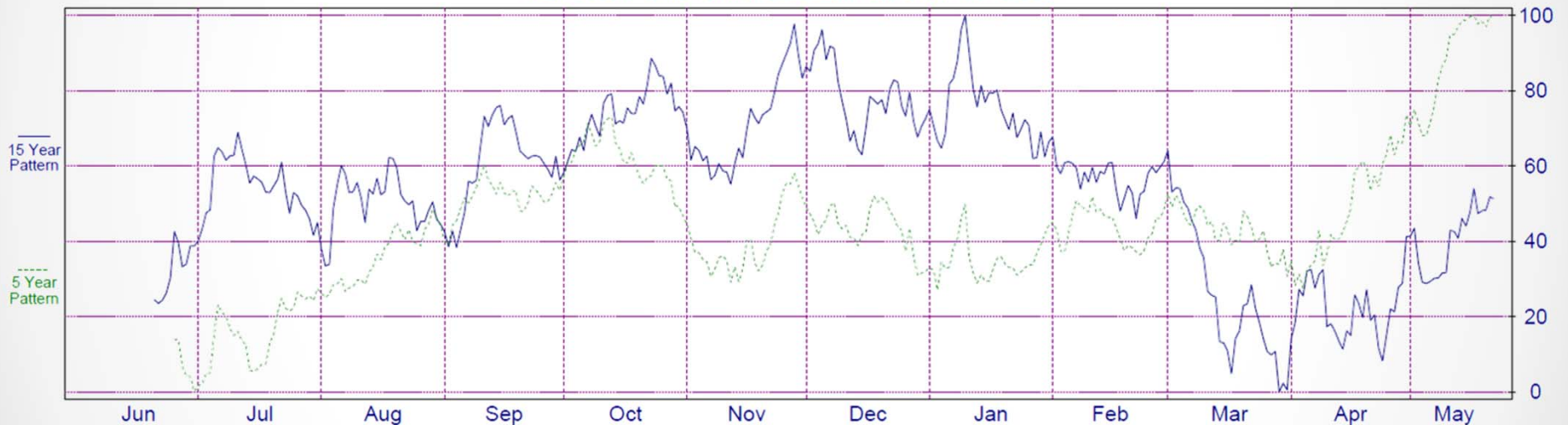
- Futures hedge

May feeder cattle	\$137.00
Basis	7.00
Commission & Interest	<u>0.50</u>
Lock in	\$129.50

- Subject to basis risk and margin calls
- Consider seasonal pattern of the May contract

Season Patterns for May Feeder Cattle Contract

May Feeder Cattle(CME) Seasonal Patterns(1994-2008)



Put Option: Set a Floor, Leave Upside Open

May Feeder Cattle Put Option

Strike Price	\$118.00
Basis	7.00
Premium	2.00
Commission & Interest	<u>0.50</u>
Floor Price	\$108.50

- If futures drop below \$118, premium increases in value and gives protection
- Basis risk, expensive?

Synthetic Put

- Sell May futures to set floor
- Buy May call option to benefit should market rise

Sell May futures	\$137.00
Hedged price	129.50
Buy \$154 call	2.00
Commission & Interest	<u>0.50</u>
Floor price	\$127.00

- Purchase of call would allow some recovery of margin at futures above \$154

Fence:

Set a Floor & a Ceiling

- Buy May put to set a higher floor price
- Sell a May call which sets a price ceiling

Buy May \$130 Put @ \$4.80 premium

Sell May \$150 Call @ \$2.90 premium

Net Premium Cost = \$4.80 - \$2.90 = \$1.90

Fence:

Set a Floor & a Ceiling

- Floor Price

Put strike price	\$130.00
Net premium	1.90
Basis	7.00
Commission & Interest	<u>0.50</u>
Floor price	\$120.60

Fence:

Set a Floor & a Ceiling

- Ceiling Price

Call strike price	\$150.00
Net premium	1.90
Basis	7.00
Commission & Interest	<u>0.50</u>
Ceiling price	\$140.60

Fence:

Set a Floor & a Ceiling

- Remember, the sale of options must be margined just like a hedged futures position
- One must also be willing to accept the ceiling price
- The fence allows one to have a higher floor price at lower cost

Options Considerations

- Options are sometimes thinly traded on distant contracts
- Orders with broker need to be well defined
- Premiums can be expensive

Livestock Risk Protection (LRP) Insurance

- Price insurance only
- Feeder cattle – insures against a decline in the CME Feeder Cattle Cash Index price
- Fed cattle – Insures against a decline in the weekly 5 Area Direct Slaughter Steer price
- www.rma.usda.gov/livestock/

Livestock Risk Protection (LRP) Insurance

- Sold by crop insurance agents
- Would have added \$50 to \$100 per head to feeder cattle value at times in '08 & '09
- Similar to options for feeder cattle and fed cattle
- Flexibility on the number insured and the price/cost is more certain
- Must be bought from 3:30 p.m. to 9 a.m. Central

Livestock Risk Protection (LRP) Insurance

- What do you have?
- You will be paid an indemnity if Feeder Cattle Cash Index is below \$114 on policy ending date
- You are subject to basis risk – \$7+/-

Livestock Risk Protection (LRP) Insurance

Pros

- Insurance offered daily
- Deal with crop insurance agent
- No margin calls
- Flexibility in number

Cons

- Must pay up front
- Policy only has value on the ending date
- Must be purchased between 3:30 p.m. and 9:00 a.m. Central

Livestock Risk Protection (LRP) Insurance

- Size limits for feeder cattle
 - 1,000 head per contract
 - 2,000 head per crop year
- Sales stopped by USDA if futures move the limit or other market disturbing news
- Selling cattle more than 30 days prior to ending date will void the policy
- Limited coverage for distant months
- **Basis risk**
- Relationship with agent important

Take Home Message

You can manage the buy/sell margin and the value of gain

- Through purchase decisions
- Study of buy/sell margins
- Timing of purchases
- Use of price risk management tools

Or you can roll the dice!



The End



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