

Cattle Markets and Marketing Strategies

2022-23 Nebraska Ranch Practicum
Gudmundsen Sandhills Laboratory
July 6, 2023



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CENTER FOR AGRICULTURAL PROFITABILITY
Institute of Agriculture and Natural Resources



**NORTH CENTRAL
EXTENSION
RISK
MANAGEMENT
EDUCATION**



United States
Department of
Agriculture

National Institute
of Food and
Agriculture

How do Nebraska Cow-Calf Producers Manage Price Risk?

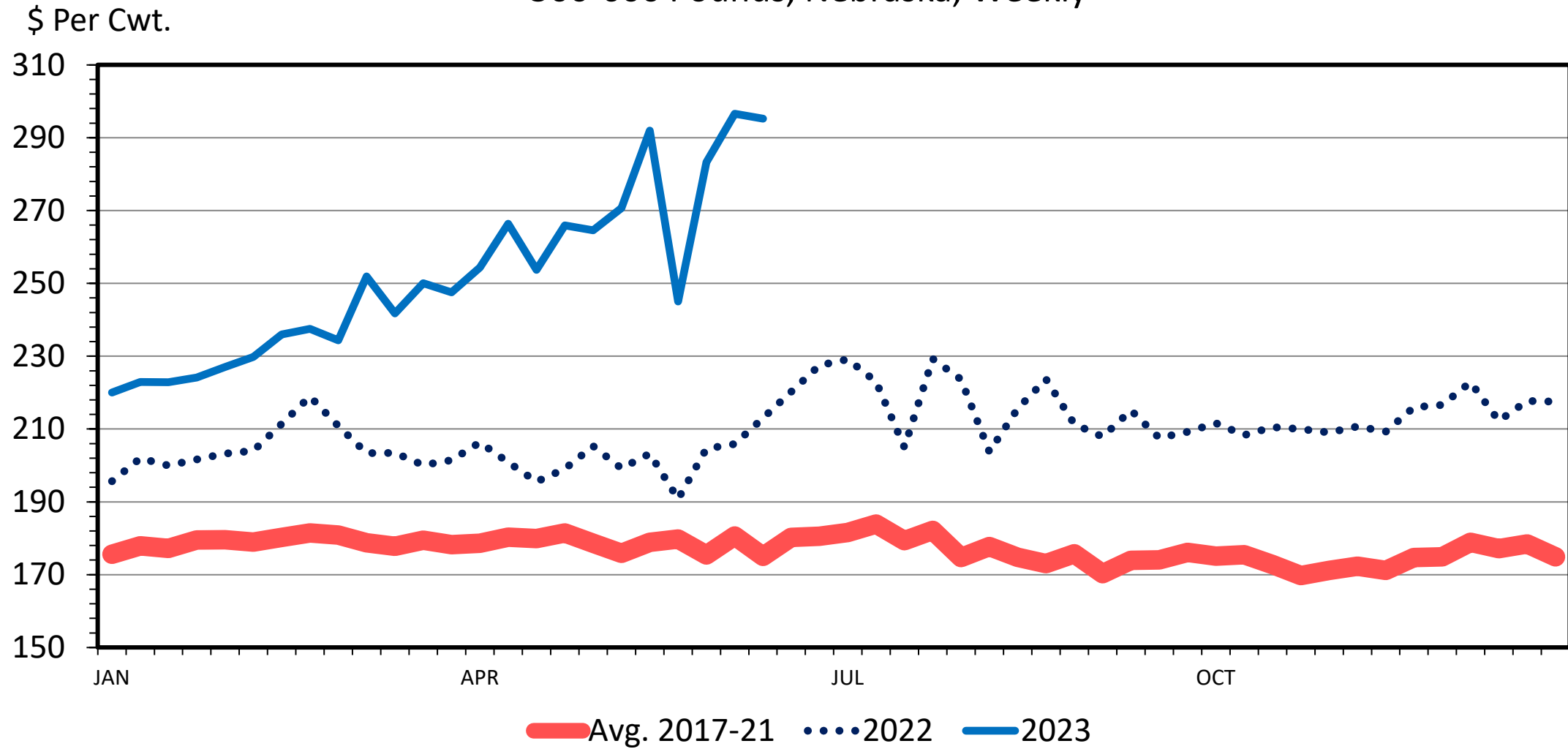
| | None | Diversification | Price Protection | Diversification + Price Protection |
|--------------------------|-------|-----------------|------------------|------------------------------------|
| Diversification | No | Yes | No | Yes |
| Pricing Tools | No | No | Yes | Yes |
| Percent of Responses (%) | 57.78 | 19.97 | 16.80 | 5.45 |

Data Source: 2016 NE Cow-Calf Survey (Kalkowski et al. 2019)



MED. & LRG. #1 STEER CALF PRICES

500-600 Pounds, Nebraska, Weekly



Data Source: USDA-AMS, Compiled by LMIC













06/05/23

Hmmm.....

- What are some ways I can estimate what the local cash price will be after weaning/backgrounding?



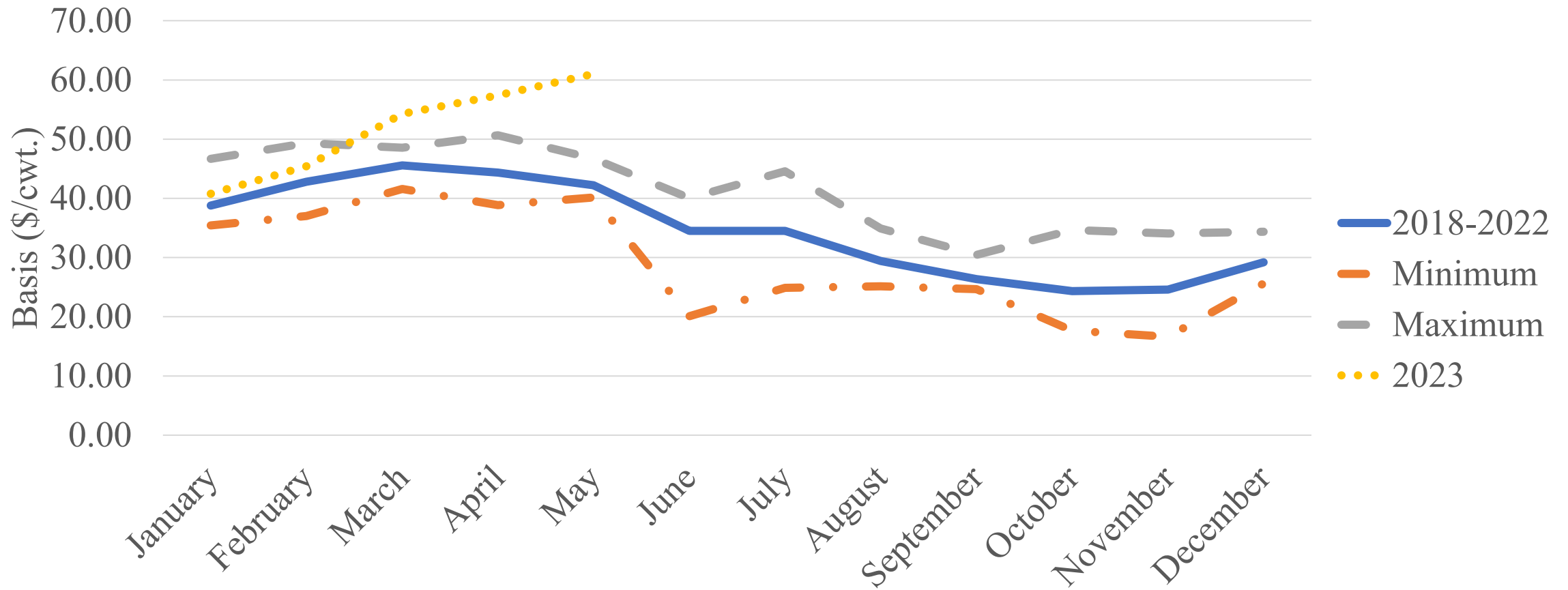
Futures + forecast of local cash basis

| MONTH | OPTIONS | CHART | LAST | CHANGE | PRIOR SETTLE |
|---|---|---|---------|-----------------|--------------|
|  AUG 2023 GFQ3 |  |  | 242.400 | +2.150 (+0.89%) | 240.250 |
|  SEP 2023 GFU3 |  |  | 245.800 | +2.075 (+0.85%) | 243.725 |
|  OCT 2023 GFV3 |  |  | 247.850 | +1.875 (+0.76%) | 245.975 |
|  NOV 2023 GFX3 |  |  | 248.425 | +1.450 (+0.59%) | 246.975 |

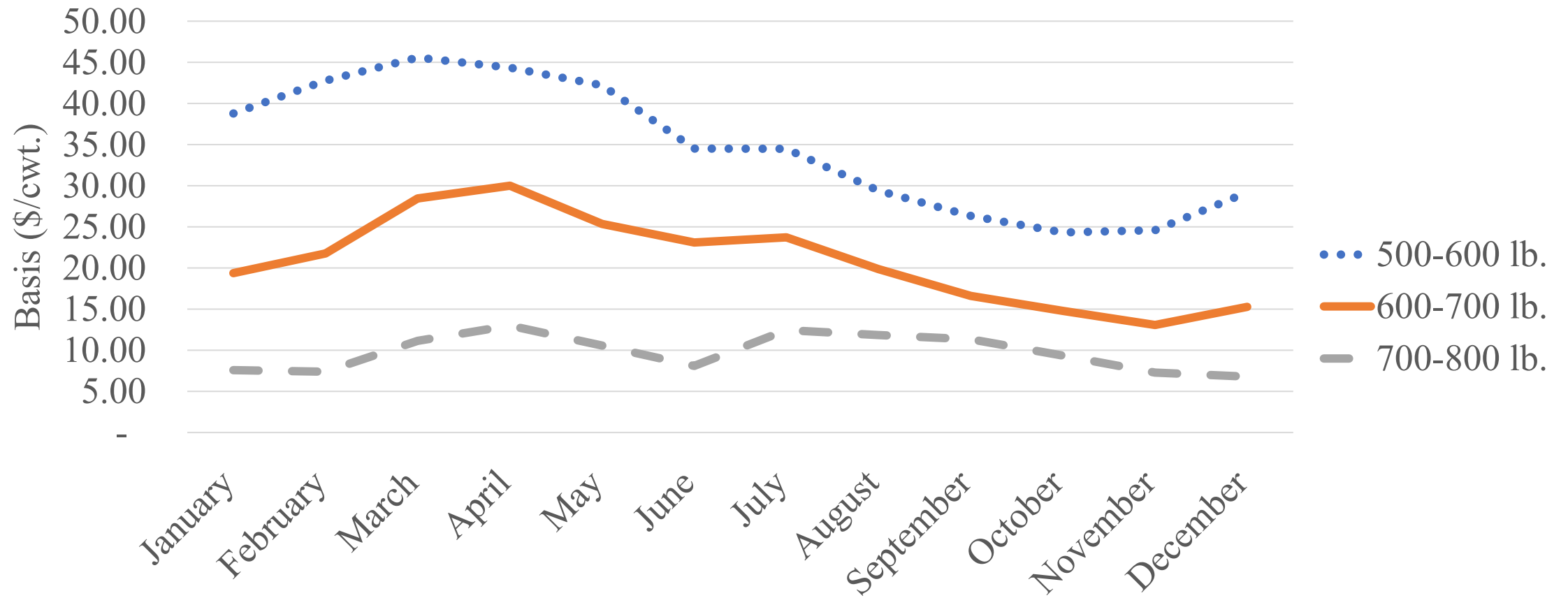
CME Feeder Cattle Futures Quotes
29 Jun 2023 trading day.



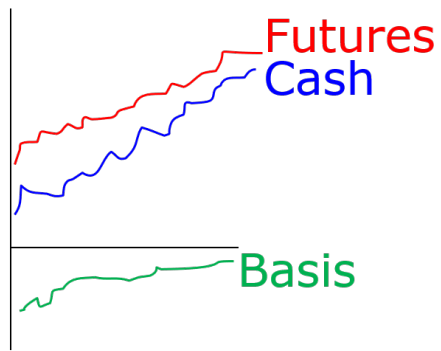
Historical Basis, Nebraska 5-600# Steers



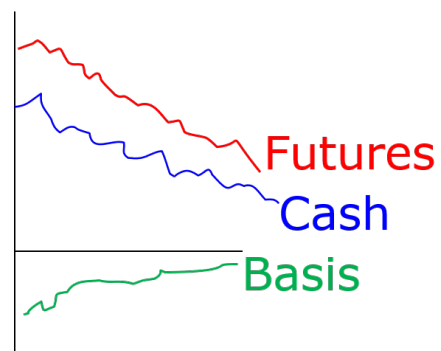
Basis varies by weight



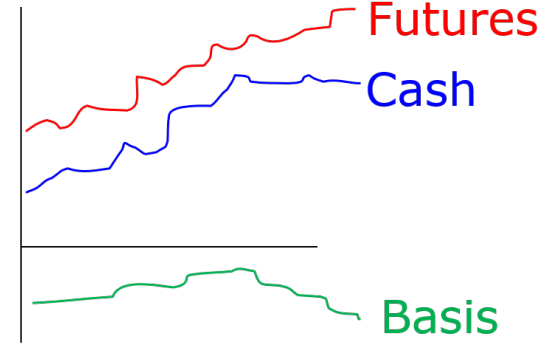
Basis Patterns



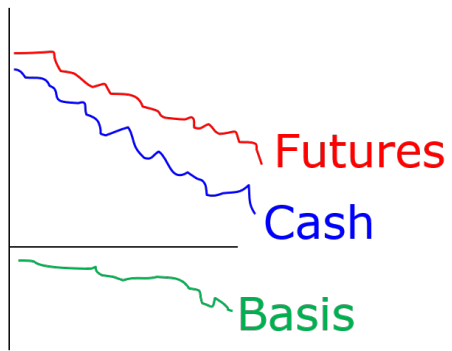
Strengthening



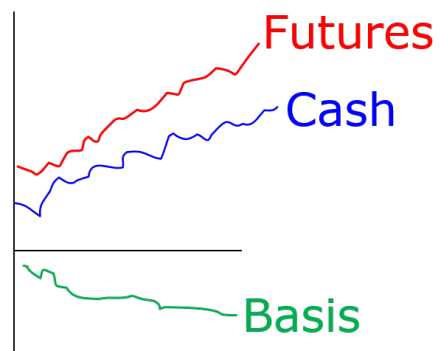
Strengthening



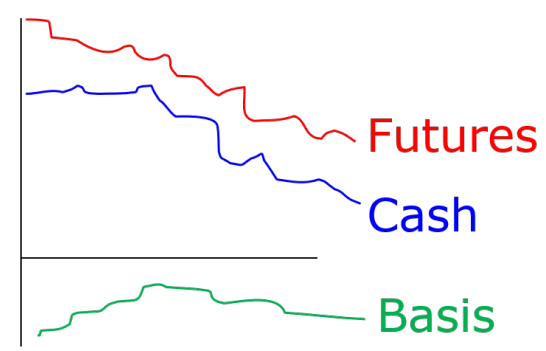
Weakening



Weakening



Weakening



Weakening



Expected Cash Price Comparisons

Futures + Basis

October Feeder Cattle Futures @ \$245.975 per cwt

Historical basis for NE 500-600 lb. steer is +25

Expected Cash Price = $245 + 25 = \$270$

Forward Contract

Cattle buyer offer for steers delivered in October is \$260 per cwt.



What are (Private) Forward Contracts?

Forward contracting: Selling cattle well in advance of their delivery date

Seller estimates cattle weight prior to delivery

Weight discrepancy between sale and delivery

Adjustment to sale price to ensure “fair market value” at delivery (i.e. “price slide”)

“Price slide” predetermined adjustment in the sale price of cattle **AND included in contract** (forward contracting) or in the **description of the cattle** (video or Internet marketing)



Video Auction Listings and Reports

Multi-state

- [Cattle Country Video –Torrington, WY](#)
- [Northern Livestock – Billings, MT](#)
- [Superior Livestock Video Auction \(Catalog Sale\) – Fort Worth, TX](#)
- [Superior Video Auction – Fort Worth, TX](#)
- [Western Video Market Livestock – Cottonwood, CA](#)
- [Winter Livestock Video Association – Enid, OK](#)

State

- <https://www.ams.usda.gov/market-news/feeder-cattle-internet-video-reports>



Price Slides Offered

Lot #: 8002

64 Spayed Heifers

Base Wt: 770

Origin:

Purch: W NE

Slide:

.08 off/on up to 25# over/under
base weight

Weight Stop:

CIRCLE 25 SLIDE

Location:

Breed Description:

BLK few BWF

Frame:

Medium

Flesh:

Medium

Variance:

Mod Uneven

Cert Co:

No

Feed:

Native Pasture & Salt

Delivery Date:

09/28/20 - 10/03/20

Delivery Notes:

Rep's Option

Weigh Conditions:

Early AM gather, trail 1-2 mi, weigh on ground, weigh back sort offs, 3% shrink

Brief Comment on Cattle:

Nice set of feeding heifers, very similar to Jim & Kelly's other lots, just the smaller, younger end. A little on the green side and ready to perform. Poured with Ivermax.

Shots:

Complete vacc program in Fall, boosted w/ 7-way w/ Somnus, Titanium 3, Safeguard, fly-tagged

Shot Program:

none

Special Programs:

Implants:

Yes

Type Implant/Date Implanted:

Bangs Vaccinated:

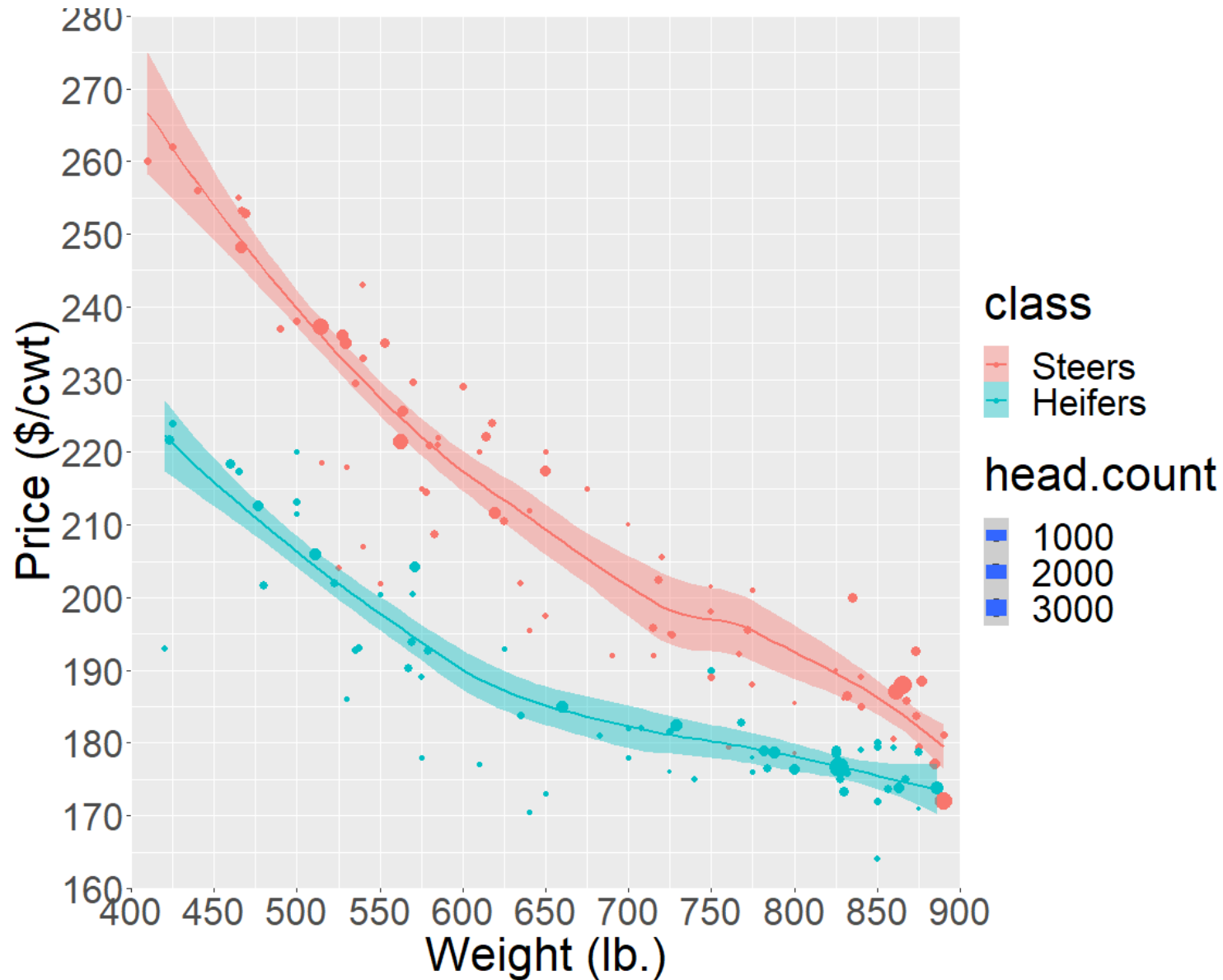
N/A

Represented:

Contact:



Historical Price Slide



Price slides vary....so be leery

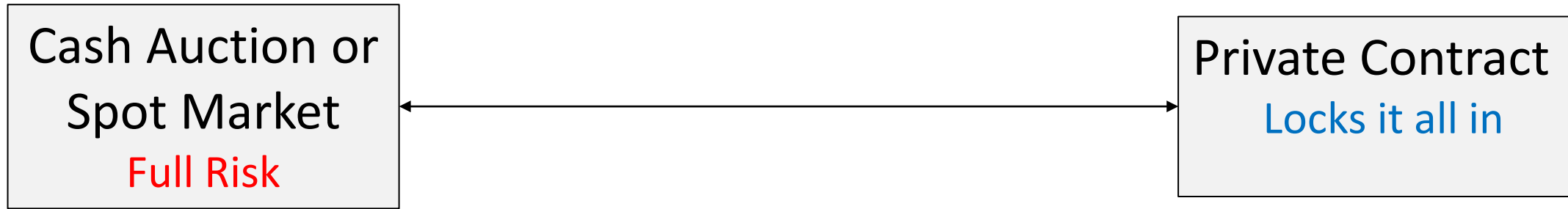
Table 1. Feeder Price Slide (Percent of Base Price), Oklahoma Combined Auctions, 2000-2016

| | Steers | | | | Heifers | | | |
|---------------|---------------|-------------|-------------|-------------|---------------|-------------|-------------|-------------|
| | Weight (lbs.) | | | | Weight (lbs.) | | | |
| | 475 | 575 | 675 | 775 | 475 | 575 | 675 | 775 |
| ANNUAL | 8.5% | 6.7% | 4.0% | 4.5% | 6.4% | 3.7% | 3.9% | 5.3% |
| JAN | 9.3% | 9.4% | 3.4% | 3.8% | 8.0% | 2.4% | 3.5% | 7.8% |
| FEB | 8.5% | 10.9% | 5.4% | 4.9% | 8.7% | 6.8% | 4.6% | 4.0% |
| MAR | 7.8% | 9.7% | 8.2% | 6.6% | 7.1% | 8.8% | 6.8% | 4.9% |
| APR | 7.4% | 8.0% | 7.7% | 6.2% | 6.5% | 7.4% | 6.2% | 5.6% |
| MAY | 7.7% | 7.8% | 6.6% | 5.8% | 6.7% | 6.1% | 5.5% | 5.3% |
| JUN | 8.1% | 6.3% | 4.4% | 4.1% | 4.7% | 3.7% | 4.2% | 5.3% |
| JUL | 5.7% | 4.2% | 3.0% | 4.1% | 4.2% | 2.6% | 3.3% | 5.0% |
| AUG | 8.9% | 3.1% | 2.8% | 4.0% | 4.4% | 1.9% | 3.0% | 4.7% |
| SEP | 9.0% | 2.0% | 2.7% | 4.2% | 4.9% | 0.3% | 3.4% | 5.7% |
| OCT | 9.3% | 4.4% | 0.1% | 3.7% | 6.4% | -0.7% | 2.6% | 6.3% |
| NOV | 10.5% | 7.2% | 0.4% | 2.9% | 8.3% | 1.3% | 1.3% | 5.0% |
| DEC | 10.7% | 8.1% | 1.8% | 2.8% | 7.6% | 2.4% | 1.7% | 3.3% |

- Slides can vary greatly by season, sex, and weight
- Price slides depend on the price level => more accurate to compare slides as a percent of the base price



Futures + Basis = Cash Price



Futures Contract

basis risk, margin call risk, broker cost

Put Option

basis risk, upside potential, broker + premium cost

LRP Insurance Contract

basis risk, upside potential, insurance cost



CME Contract Specifications

Size, deliverable grades, locations, See www.cmegroup.com

Feeder cattle Contract Specifications

50,000 lbs (500 cwt) – 700 to 899 lbs. Medium Frame #1 steers



Feeder Cattle (FC) Trading Months

Jan, Mar, Apr, May, Aug, Sep, Oct, Nov (F, H, J, K, Q, U, V, X)



CME Feeder Cattle Prices in late June 2023

https://www.cmegroup.com/trading/agricultural/livestock/feeder-cattle_quotes_globex.html

| MONTH | OPTIONS | CHART | LAST |
|--|---|---|---------|
|  AUG 2023 GFQ3 |  |  | 242.400 |
|  SEP 2023 GFU3 |  |  | 245.800 |
|  OCT 2023 GFV3 |  |  | 247.850 |
|  NOV 2023 GFX3 |  |  | 248.425 |

- Sell one Oct FC contract @ \$247.850/cwt
 - Contract value \$123,925
 - Commission charged by broker for “round-turn” trade
 - Margin account deposit \$4,200 (will vary depending upon broker)
 - Maintenance margin \$3,500 (set by CME to cover daily price limit change)



**Daily Price Limit
\$3,500=\$7.00/cwt.**



CME Feeder Cattle Futures Quotes
29 Jun 2023 trading day

Futures Contract Example

Sold one Oct Feeder Cattle contract @ \$245/cwt

Price goes down to \$235/cwt

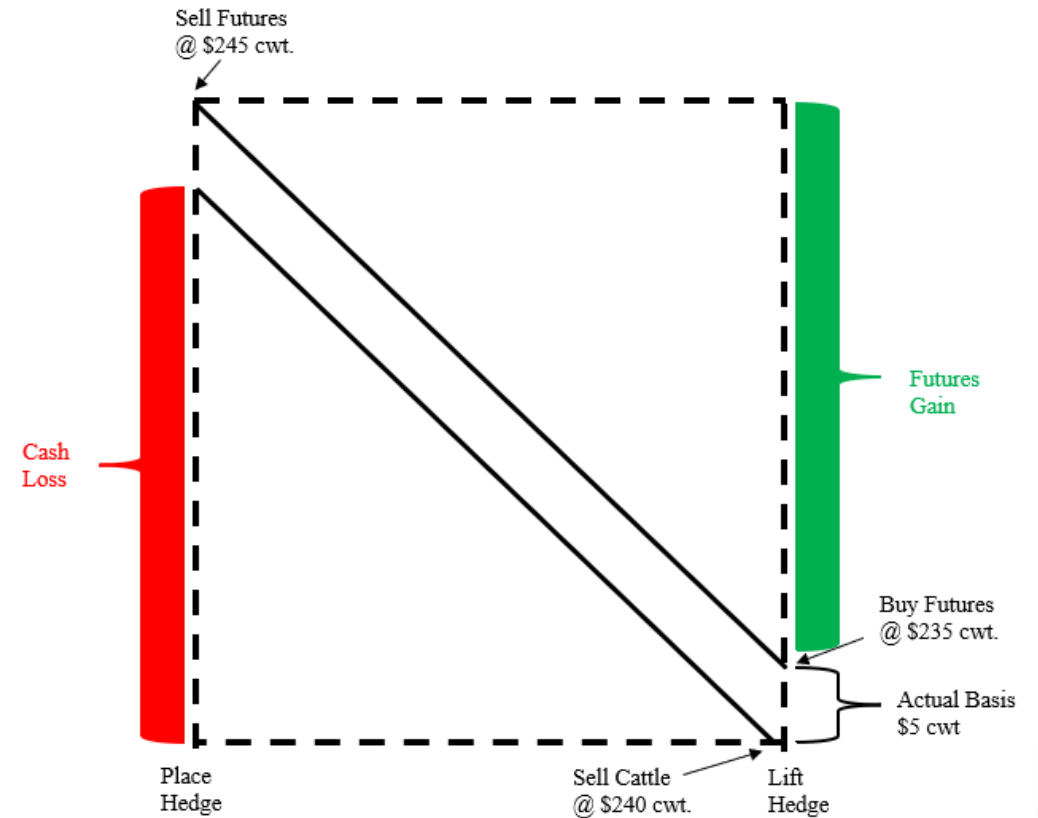
Buy one contract at \$235 to **offset position**

Make \$10/cwt on the round-turn trade minus commission
 $\$5000 - \$4.50 \text{ (commission)} = \4995.50 net gain

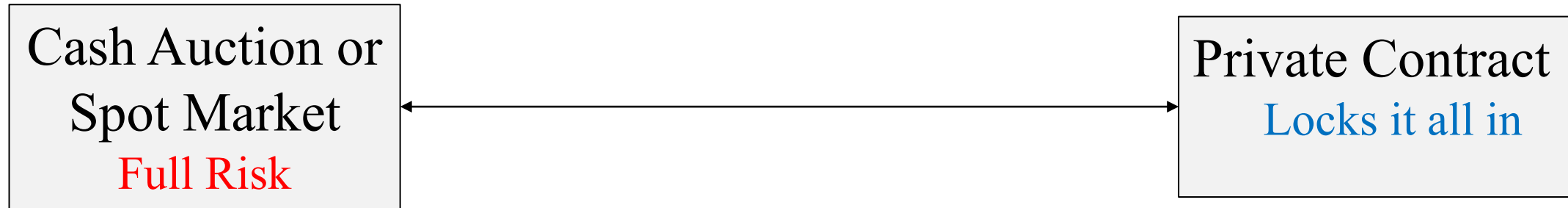
Price goes up to \$255.00/cwt

Buy one contract at \$255.00 to offset position

Lose \$7.15/cwt on the round-turn trade plus commission
 $-\$3,575 - \$4.50 \text{ (commission)} = \$3,579.50 \text{ net loss}$



Futures + Basis = Cash Price



Futures Contract

basis risk, margin call risk, broker cost

Put Option

basis risk, upside potential, broker + premium cost

LRP Insurance Contract

basis risk, upside potential, insurance cost



What is an Option?

An option is the **right but not the obligation** to buy or sell a futures contract at a specific predetermined price (strike price) at any time within a given time period

Call Option

The buyer of a call has the right to buy the underlying futures contract at the specified strike price

Put Option

The buyer of a put has the right to sell the underlying futures contract at the specified strike price




Exercise Position Table

| | Call Option | Put Option |
|----------------------|---|--|
| Option Buyer | Pays premium; right to buy | Pays premium; right to sell |
| Option Seller | Collects premium; obligation to sell | Collects premium; obligation to buy |



Example of CME Options

| UNDERLYING FUTURE | CHART | LAST |
|-------------------|---|---------|
| OCT 2023 GFV3 ▾ |  | 247.850 |

Put Option Opportunity

- Strike Price: \$246.00 per cwt.
- Premium: \$8.275 per cwt.

| STRIKE PRICE | PUTS | | | | | |
|--------------|-------|--------|--------------|-------|-------|--------|
| | LAST | CHANGE | PRIOR SETTLE | LOW | HIGH | VOLUME |
| 244.0 | 7.200 | -0.150 | 7.350 | 7.200 | 7.200 | 12 |
| 245.0 | - | - | 7.800 | - | - | 0 |
| 246.0 | 7.250 | -1.025 | 8.275 | 7.100 | 8.050 | 22 |
| 247.0 | 8.200 | -0.550 | 8.750 | 8.200 | 8.200 | 5 |
| 248.0 | - | - | 9.275 | - | - | 16 |
| 249.0 | - | - | 9.825 | - | - | 0 |
| 250.0 | - | - | 10.375 | - | - | 0 |

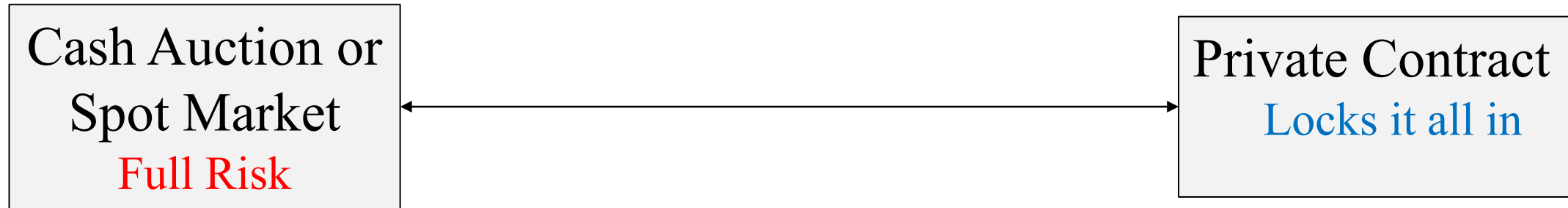


Summary of Option Buyers Choices

- 1. Exercise the option** any time before expiration
You take the underlying position in the futures contract
- 2. Offset the option**
By taking opposite position
- 3. Let the option expire**
Seller will keep the premium
Options expire the month before the futures contract expires



Futures + Basis = Cash Price



Futures Contract

basis risk, margin call risk, broker cost

Put Option

basis risk, upside potential, broker + premium cost

LRP Insurance Contract

basis risk, upside potential, insurance cost



Livestock Risk Protection (LRP) Insurance for Cattle

LRP insurance offers *price* protection for cattle producers.

Available in all counties across all states for:

- Feeder Cattle Weight 1 (< 600 lbs.)
- Feeder Cattle Weight 2 (600-900 lbs.)
- Fed Cattle (> 900 lbs.)

Operates like a (European) Put Option

- Offered for 13, 17, 21, 26, 30, 34, 39, 43, 47 or 52-week periods

Producers remain subject to *basis price risk*



LRP Insurance for Feeder Cattle

- Expected End Value
 - This is the expected price at the end of an insurance period for each specific type and weight of feeder cattle announced daily on the RMA website
- Coverage Prices
 - the prices that may be insured by the producer
- Coverage Levels
 - range from 70 to 100% of the expected end value
- Actual End Value
 - This is the value of the cash settled CME feeder cattle index on the end date of the insurance period, adjusted by RMA for feeder cattle type and weight



Livestock Risk Protection (LRP) Insurance

- LRP is purchased through RMA-approved livestock insurance agents
- Application followed by Specific Coverage Endorsement
- Recent Changes (effective July 1, 2020)
 - Premium due at the end of the endorsement period
 - Premium subsidies increase



LRP Insurance for Feeder Cattle Premium Subsidy Levels

Subsidy Levels

| Coverage Price | Subsidy Level by Year | | | |
|----------------|-----------------------|------|----------|----------|
| | 2003 | 2018 | May-2020 | Sep-2020 |
| 95-100% | 13 | 20 | 25 | 35 |
| 90-94.99% | 13 | 25 | 30 | 40 |
| 85-89.99% | 13 | 30 | 35 | 45 |
| 80-84.99% | 13 | 30 | 35 | 50 |
| 75-79.99% | 13 | 35 | 45 | 55 |
| 70-74.99% | 13 | 35 | 45 | 55 |

New and beginning producers qualify for an additional 10% subsidy (<5 years operating)



LRP Coverage Rates

Steers Weight 1, October 25 end date, 17-week policy (Jun 28, 2023)

Expected End Value: \$270.570 per cwt.



| Coverage Price | Coverage Level | Rate | Cost Per CWT | Producer Premium Per CWT |
|----------------|----------------|----------|--------------|--------------------------|
| \$268.40 | 0.9920 | 0.034402 | 9.233 | 6.00 |
| \$266.20 | 0.9838 | 0.030632 | 8.154 | 5.30 |
| \$264.00 | 0.9757 | 0.027213 | 7.184 | 4.67 |
| \$261.80 | 0.9676 | 0.023971 | 6.276 | 4.08 |
| \$259.60 | 0.9595 | 0.021157 | 5.492 | 3.57 |
| \$257.40 | 0.9513 | 0.018500 | 4.762 | 3.10 |
| \$255.20 | 0.9432 | 0.016332 | 4.168 | 2.50 |
| \$253.00 | 0.9351 | 0.014248 | 3.605 | 2.16 |
| \$250.80 | 0.9269 | 0.012346 | 3.096 | 1.86 |
| \$248.60 | 0.9188 | 0.010699 | 2.660 | 1.60 |

Follow the Website Link or QR Code

<https://www.rma.usda.gov/en/Information-Tools/Livestock-Reports>



Livestock Insurance: LRP for Feeder Cattle Example

| Contract Data | Value |
|------------------------|------------|
| Number of Steers | 150 head |
| Expected Weight | 550 pounds |
| Current Date | Jul. 5 |
| Marketing Date | Oct . 4 |
| Insurance Period | 13 weeks |
| Expected Ending Value | \$194.737 |
| Coverage Price | \$193.66 |
| Producer Cost per cwt. | \$4.69 |
| Producer Premium | \$3,869 |



Livestock Insurance: LRP for Feeder Cattle Example

Suppose the CME-reported actual ending value is \$205.90/cwt. Would you receive an indemnity?

- **NO** = $\$205.90 > \193.66 (coverage price)
- **NET** = **(\$3,869)**

Suppose the CME-reported actual ending value is \$183.80/cwt. Would you receive an indemnity?

- **YES** = $\$183.80 < \193.66 (coverage price)
- **INDEMNITY** = $\$9.86/\text{cwt} \times 825 \text{ cwt} = \$8,135$
- **NET** = $\$8,135 - 3,869 = \$4,266$ or $\$5.17/\text{cwt}$.



LRP-Feeder Cattle Performance

LRP-Feeder Cattle Insurance Coverage - Nebraska Summary 2011-22. Crop year runs from July 1 of previous year to June 30 of year listed based on when the specific coverage endorsement was purchased.

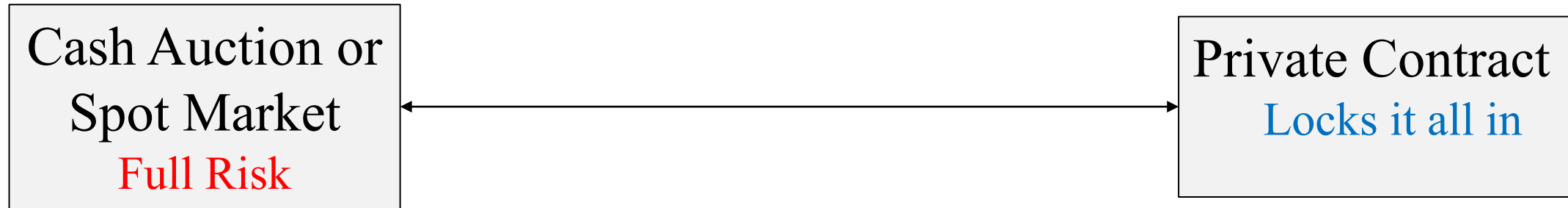
| Crop Year | Policies Earning Premium | Policies Indemnified | Head Covered | Total Premiums | Subsidy | Indemnity | Loss Ratio | Producer Premium | Producer Loss Ratio |
|-----------|--------------------------|----------------------|--------------|----------------|-------------|---------------------------|------------|------------------|---------------------|
| 2011 | 313 | 88 | 34,443 | \$986,235 | \$128,216 | \$149,965 | 0.15 | \$858,019 | 0.17 |
| 2012 | 230 | 136 | 27,202 | \$773,296 | \$100,527 | \$980,198 | 1.27 | \$672,769 | 1.46 |
| 2013 | 85 | 34 | 10,386 | \$282,484 | \$36,718 | \$247,183 | 0.88 | \$245,766 | 1.01 |
| 2014 | 197 | 2 | 25,398 | \$701,899 | \$91,247 | \$252 | 0.00 | \$610,652 | 0.00 |
| 2015 | 141 | 69 | 15,456 | \$616,680 | \$80,165 | \$872,264 | 1.41 | \$536,515 | 1.63 |
| 2016 | 75 | 67 | 9,885 | \$460,552 | \$60,411 | \$625,482 | 1.36 | \$400,141 | 1.56 |
| 2017 | 191 | 50 | 21,735 | \$995,861 | \$128,310 | \$195,421 | 0.20 | \$867,551 | 0.23 |
| 2018 | 117 | 45 | 15,802 | \$640,475 | \$82,998 | \$406,191 | 0.63 | \$557,477 | 0.73 |
| 2019 | 69 | 47 | 9,095 | \$309,240 | \$40,691 | \$584,929 | 1.89 | \$268,549 | 2.18 |
| 2020 | 46 | 18 | 7,325 | \$324,531 | \$70,559 | \$224,896 | 0.69 | \$253,972 | 0.89 |
| 2021 | 290 | 210 | 62,530 | \$3,125,436 | \$1,104,538 | \$1,142,733 | 0.37 | \$2,020,898 | 0.57 |
| 2022* | 600 | 243 | 200,740 | \$11,239,535 | \$3,946,085 | \$6,976,564 | 0.62 | \$7,293,450 | 0.96 |
| Average* | 159 | 44% | 21,751 | | 21% | | 0.59 | | 0.74 |
| | | | | | | Under 35% Premium Subsidy | | \$5,990,848 | 0.91 |

* 2022 is still in progress, totals and averages include 2011-21.

Source: <http://www.rma.usda.gov/apps/SummaryOfBusiness/ReportGenerator/>, Jul. 6, 2022.



Futures + Basis = Cash Price



Futures Contract

basis risk, margin call risk, broker cost

Put Option

basis risk, upside potential, broker + premium cost

LRP Insurance Contract

basis risk, upside potential, insurance cost



Marketing Plan Exercise

Complete your Marketing Plan

Marketing Price Objectives: List at least two things you want to accomplish with your marketing plan for fall weaned calves sold in mid-October.

Example: Net sales price revenue 25% above cash costs.

Example: Maintain potential for upside price movement on 40% of expected sales volume.

1. _____
2. _____

Actions Taken Now:

- A. Sell _____ 50,000 pound feeder cattle futures contract(s) at \$245.975
- B. Purchase _____ 50,000 pound put option contract(s) at \$246 for \$8.275 per cwt.
- C. Purchase LRP insurance contract(s) (see attached LRP offers on next page)
 - a. Steers Weight 1 _____
_____ head at 580 lbs. at \$ _____ coverage price for \$ _____ per cwt. premium
 - b. Heifers Weight 1 _____
_____ head at 540 lbs. at \$ _____ coverage price for \$ _____ per cwt. premium
- D. Sell on the video auction for October delivery.
 - a. Sell _____ steers at \$260.00 per cwt.
 - b. Sell _____ heifers at \$235.00 per cwt.

