

Insurance Options for Cow-Calf Producers

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Many types of risk

Production Risk:

Events such as disease or weather that can lead to a decline in production/weight gain or mortality

Feed Risk

If crop/forage yield decreases, feed may become expensive or difficult to purchase

Price Risk

Market price might drop, even to the point of not covering the cost of production



“The Federal Crop Insurance Program”



Well-established for row crops

Private-public partnership

Some insurance products available for livestock producers

Why formally insure?

- Loan access / repayment
- Vulnerability to drought
- Protect operation during herd expansion
- Federal insurance options are becoming more favorable



<https://www.ksre.k-state.edu/news/stories/2021/01/beef-cattle-winter-ranch-management-series.html>

Many livestock insurance options

PRF: Pasture Rangeland and Forage (or Annual Forage)

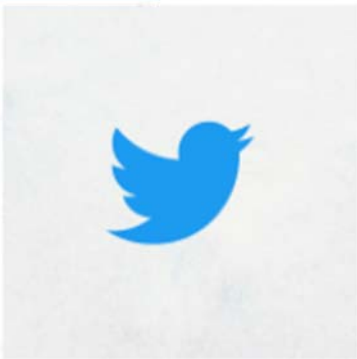
LRP: Livestock Risk Protection

<https://agmanager.info/crop-insurance/crop-insurance-papers-and-information/livestock-insurance-and-lrp>

Goals

1. PRF and LRP Basics
2. Areas for further study

PRF: WHAT



If you have pasture or hay acreage and have drier conditions in your area than usual, you get paid

If you have pasture or hay acreage

- Perennial hay crops
- Pasture / grazing



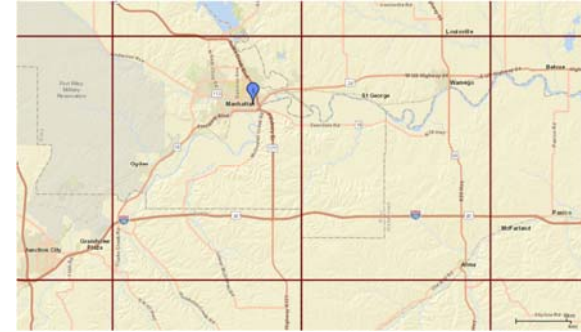
<https://www.ksre.k-state.edu/news/stories/2021/05/cattle-chat-managing-drought.html>

...and have drier conditions*....



*PRECIPITATION

...in your area...

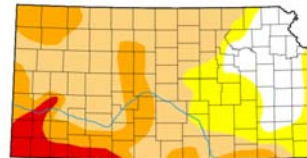


...than usual

Less than normal

100 = Historic average in a 2-month interval

Example: 75= Rainfall in interval is 75% of the historic average



...than usual

Index Values - Percent of Normal											
Year	Jan-Feb	Feb-Mar	Mar-Apr	Apr-May	May-Jun	Jun-Jul	Jul-Aug	Aug-Sep	Sep-Oct	Oct-Nov	Nov-Dec
2021	77.8	126.6	118.9	101.3	78.7	90.6	116.1	70.4	77.9	77.1	N/A
2020	117.0	95.7	105.8	100.9	86.4	123.6	131.4	62.2	36.8	77.7	149.9

Actual Index for Grid 23233 (Includes Riley, KS), <https://prodwebnlb.rma.usda.gov/apps/prf#>

...than usual

Producer decides what months the get protection from PRF in (minimum of 4)



...than usual

4 months must be covered or 2, 2-month intervals

1. % weights for each interval to sum to 100
2. No individual interval weighted greater than 60% or less than 10%

Why:

Premiums & indemnities for each interval are scaled by the weight, or are proportional to the producer-selected weight

...than usual

Example 1:

- Mar-April: 50%
- May-June: 40%
- July-Aug: 10%

Example 2:

- Jan-Feb: 60%
- Nov-Dec: 40%

Example 3:

- Jan-Feb: 16%
- Mar-Apr: 16%
- May-Jun: 17%
- Jul-Aug: 17%
- Sept-Oct: 17%
- Nov-Dec: 17%

....you get paid

AUTOMATICALLY, if

Actual index (precipitation) in producer-selected interval **is less than** the producer-selected coverage level

Coverage level: 70-90%

Higher coverage levels cost more & pay out more
Lower coverage levels cost less & pay out less



....you get paid

WHEN?

	PRF Coverage Level	Actual precipitation Index, March-April Interval	Do you get an indemnity?
1	90%	85	YES
2	80%	85	NO
3	90%	120	NO indemnity at any coverage level, RELATIVELY WET CONDITIONS

....you get paid

HOW MUCH?

The level of payout is based on an estimate of the underlying value or returns from the hay crop or pasture



Intuition: Estimated 2022 returns to alfalfa are around \$200/acre

....you get paid

HOW MUCH?

Based on:

1. County average values
2. Producer selected weight



....you get paid

HOW MUCH?

Based on:

1. USDA-estimated "county base value" for grazing or hay
2. Producer selected productivity factor (60-150%)



Intuition: Returns may vary by producer/soil quality, etc. or the producer may want lower coverage/costs

....you get paid

How are indemnities calculated?

SUMMARY

Difference between actual precipitation and coverage level X

County base value X productivity factor X

Interval weight (share) =

INDEMNITY

Note: RMA uses different formulas that are more complicated: this is a relatively intuitive explanation that yields an approximate indemnity

....you get paid

How are indemnities calculated?

If coverage levels are > actual index during a selected interval:

(1) Coverage level-actual index) * ((2) County base value X (3) productivity factor X (4) interval share)

In words:

1. Difference between in actual precipitation index and coverage level X
2. Average county hay/grazing revenue or value X
3. Producer-selected productivity factor X (note: to adjust county base value up/down to match individual revenue)
4. Producer-selected interval share (or weight) =

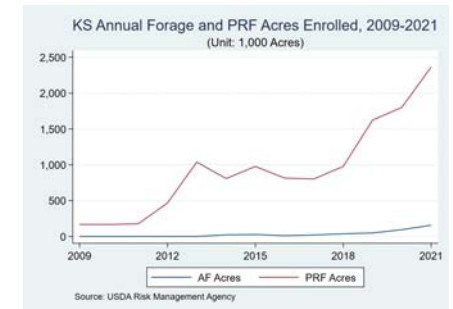
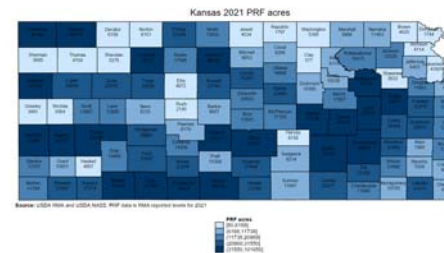
\$\$\$ Indemnity

Note: RMA uses different formulas that are more complicated: this is a relatively intuitive explanation that yields an approximate indemnity

Example: 2021 PRF – Hay in Riley County

Interval	Weight (% of Value)	Premium	Protection	Actual Index	Indemnity
Mar-Apr	50	\$9	\$120	118.9	0
May-Jun	40	\$6	\$96	78.7	\$12
Jul-Aug	10	\$2	\$24	116.1	0
TOTAL	100	\$17	\$240		\$12

PRF: WHERE?



PRF: WHEN?

Deadline is typically November 15 for coverage for the next calendar year

Deadline for 2022 coverage was extended to December 1, 2021

PRF: The bottom line

- Protection against *general* dry conditions
- Producers should **come out ahead** in the long run
- Management considerations
 - Cost
 - Risk reduction
 - Returns
- Important considerations
 - Grid selection, grid vs farm, interval selection, coverage level, productivity factor

LRP 101

Livestock Risk Protection

LRP: WHAT



If you have livestock and market prices are less than expected, you get paid

If you have livestock....

- Feeder cattle
 - Under 600 lb or 600-900 lb
 - Calves, steers, heifers, Brahm, dairy, unborn
- Fed cattle
 - Heifers and steers
 - 1000-14,00 lb
- Weight and breed etc. **only affect** "how much", **not** whether a payout happens



<https://www.ksre.k-state.edu/news/stories/2020/12/risk-management-for-livestock-producers.html>



...and market prices....

Prices

Feeder Cattle: futures (weighted average prices, from the Chicago Mercantile Exchange Group Feeder Cattle Index)

Fed Cattle*: USDA Agricultural Marketing Service - AMS



<https://www.ksre.k-state.edu/news/stories/2016/07/boot-camp-072716.html>

*For clarity, feeders will be focus for rest of presentation

...are less than expected

Is the actual price **less** than what was expected?

Expected: futures price for intended market date

Actual: actual price at intended market date



Endorsement length: time period between when policy is purchased (expected price is established) and intended sale date (actual price is established)

...are less than expected

Example: You calve in March and sell weaned calves in September.

- Expected price is September futures \$ value **in March**
- Actual price is CME price **in September**
- Endorsement length is 26* weeks

Note: LRP is not based on local cash prices

* 30 depending on specific dates

...you get paid

If expected price or coverage price is less than the actual price

Coverage price = coverage level (70-100%) X futures/expected price

- Higher coverage levels cost (a lot) more, pay out (a lot) more
- Lower coverage levels cost less, pay out less

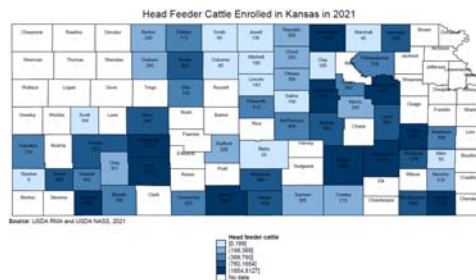
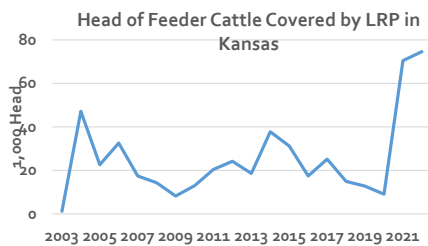


...you get paid

Example: March calving, sell in September at wean. In March, September futures are \$200 (expected price = \$200)

	LRP Coverage Level	Coverage Price	September Actual Price	Do you get an indemnity?
1	95%	\$190	\$180	YES
2	85%	\$170	\$180	NO
3	85%	\$170	\$230	NO indemnity at any coverage level, BUT prices went up

WHERE?



WHEN?

SIGN UP anytime with a crop insurance agent (similar to "registering")

When you want to buy LRP, you purchase an individual "endorsement" with a crop insurance agent



WHEN?

Costs are based on future markets and can vary daily

Policies are available based on expected sale date and length of policy/endorsement

Producers need to have an idea of acceptable costs/prices and timing beforehand



WHY? (Part 1)

- Protect your operation against declining prices
- Take advantage of (relatively) high futures prices
- Lenders like insurance



WHY? (Part 2)

- Federal government pays up to 50% of the premium
- Compared to hedging
 - Lower cost than a put
 - No margin account/calls
 - No head minimum



LRP: other details

- Cattle: 6,000 head per endorsement, max of 12,000 head per year
- Purchase in state where cattle are located
- File for indemnity within 60 days, cannot sell cattle more than 60 days before end of coverage period (without approval)
 - But not required to sell by end of coverage period
- Can purchase endorsements for unborn feeders

LRP Example: Costs

You calve in March and sell at wean in September. The current expected (futures) price is \$196.81. Below are a range of potential coverage prices and premium costs (per cwt)

Coverage price	Coverage level	Total premium	Producer premium
\$195.07	99.1%	\$8.93	\$5.81
\$188.77	95.9%	\$6.13	\$3.98
\$180.37	91.7%	\$3.55	\$2.13
\$176.17	89.5%	\$2.66	\$1.46

LRP Example: High Coverage Payouts

You calve in March and sell at wean in September. The current expected (futures) price is \$196.81 per cwt and you select the highest level of coverage (99.1% or coverage price of \$195.07). Below are potential outcomes (all per cwt)

Coverage price	Actual price	Producer premium	Total Indemnity
\$195.07	\$160	\$5.81	\$35.07 / cwt
\$195.07	\$180	\$5.81	\$15.07 / cwt
\$195.07	\$190	\$5.81	\$5.07 / cwt
\$195.07	\$200	\$5.81	\$0

LRP Example: Low Coverage Payouts

You calve in March and sell at wean in September. The current expected (futures) price is \$196.81 per cwt and you select the lowest level of coverage (89.5% or coverage price of \$176.17). Below are potential outcomes (all per cwt).

Coverage price	Actual price	Producer premium	Total Indemnity
\$176.17	\$160	\$1.46	\$16.17 / cwt
\$176.17	\$180	\$1.46	\$0
\$176.17	\$190	\$1.46	\$0
\$176.17	\$200	\$1.46	\$0

LRP: The bottom line

- Policy is now more favorable
 - "Small producer" friendly
- The highest coverage policies provide the highest protection and return over time with frequent indemnities, but costs can easily go over \$5/cwt for feeders
- The lowest coverage policies provide catastrophic coverage, only occasionally pay indemnities, but cost is much lower

Questions?
Comments?
Thank you!



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