

Control Events

- Plan ahead. Don't procrastinate. Replace worn machinery parts during the off season.
- Before you harvest or cut hay discuss who can be available to run for parts, care for cattle etc.
- Set priorities of what has to be done today and what can wait until tomorrow.
- Say no to extra commitments you don't have time for.
- Simplify your life, if possible reduce your financial dependence on others.

Control attitudes – How farm family members view situations is a key factor in creating or eliminating unwanted stress

- See the big picture: "I am glad that tire blew here rather than on the next hill"
- Shift worry to problem solving
- Notice what you have accomplished rather than what you failed to do
- Set realistic goals and expectations daily. Give up on trying to be perfect



Control responses- The past is gone. The future is not here yet. Right now you have the choice to feel stressed or to feel relaxed. Start here:

- Relax -Whether walking, driving, phoning, do it slowly and relax. Keep only that muscle tension necessary to accomplish the task
- Take care of your body
- Take break, climb down off the tractor
- Think positive
- Look for the humor in everything you can



Managing Risk with Livestock and Forage Insurance

Kyle Whittaker

County Engagement Specialist in

Ag Business, Agriculture &
Environment

UNIVERSITY OF MISSOURI
 Extension



This material is based upon work supported by USDA RMA under award number 13-IE-53102-188.



Let's Play the Acronym Quiz!

LIP

LFP

MPP

LRP

PRF

LGM



Answers and Where to Go?

Crop & Livestock
Insurance Agents

USDA Farm Service
Agency

LRP

Livestock Risk Protection

PRF

Pasture, Rangeland, Forage

LGM

Livestock Gross Margin

LFP

Livestock Forage Program

MPP

Margin Protection Program (Dairy)

LIP

Livestock Indemnity Program



Insurance Resources for Livestock Producers

- **Livestock Risk Protection (LRP)**

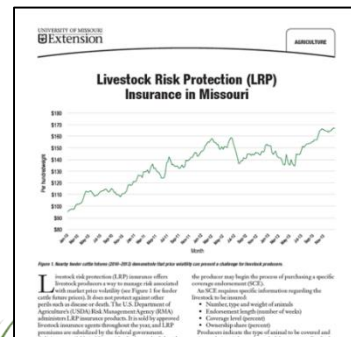
- Guide at <http://extension.missouri.edu/p/G459>

- **Pasture, Rangeland, Forage (PRF) Rainfall**

- Guide at <http://extension.missouri.edu/p/G457>

- **Livestock Gross Margin (LGM)**

- Guide at <http://extension.missouri.edu/p/G461>



Livestock Risk Protection (LRP) Insurance



LRP Basics

- Insurance that provides protection against price declines. Does not protect disease or death
- The USDA (RMA) Risk Management Agency administers LRP insurance products. It is sold by approved livestock insurance agents.
- Policies are available for feeder cattle, fed cattle, lamb and swine.
- Typical Cost: 1-5% of the value of the animal
- Policies are subsidized by federal government (Just increased Jan. 2019 from 13% to 20-30%)
- Which basically means a cheaper premium!



How LRP works

The producer begins by purchasing a (SCE) Specific coverage endorsement

The SCE requires the following information:

- Number, Type and weight of animals.
- Endorsement length (number of weeks)
- Coverage level (percent)
- Ownership share (percent)

Producers indicate the type of animal to be covered and estimate their weights at the end of coverage. For feeder cattle breed and sex must be identified.

The length of available endorsements range from 13 to 52 weeks based on species.



Government Subsidies

- Subsidies vary by the coverage level selected for feeder cattle, fed cattle and swine

Percent of Policy Cost	Coverage Level
35 percent	70 to 79.9%
30 percent	80 to 89.9%
25 percent	90 to 94.9%
20 percent	95 to 100%

- Subsidies vary by the coverage period selected for lamb (20 to 38 percent)



Missouri LRP Usage in 2019

LRP Policy	Policies Sold	Number of Insured Head	Liabilities
Feeder Cattle	227	4,910	\$5,712,637
Fed Cattle	8	0	\$0
Swine	1	100	\$12,600
Lamb	1	0	\$0

Source: USDA – Risk Management Agency (as of August 8, 2019)



How LRP works

- The coverage level is a percentage of the livestock's expected value at a contract's expiration date, and premiums increase with coverage level.
- After submitting the SCE, the premium is due on the day it is accepted by the RMA
- Time frame to purchase starts at 3:30 p.m. and lasts until 9 the next morning, Central time



How LRP premiums are calculated

1. Number of head \times target ending weight (in cwt) = total hundredweight
2. Total hundredweight \times coverage price = total value
3. Total value \times ownership share = insured value
4. Insured value \times actuarial rate = premium
5. Premium - (premium \times subsidy percent) = premium paid by policyholder



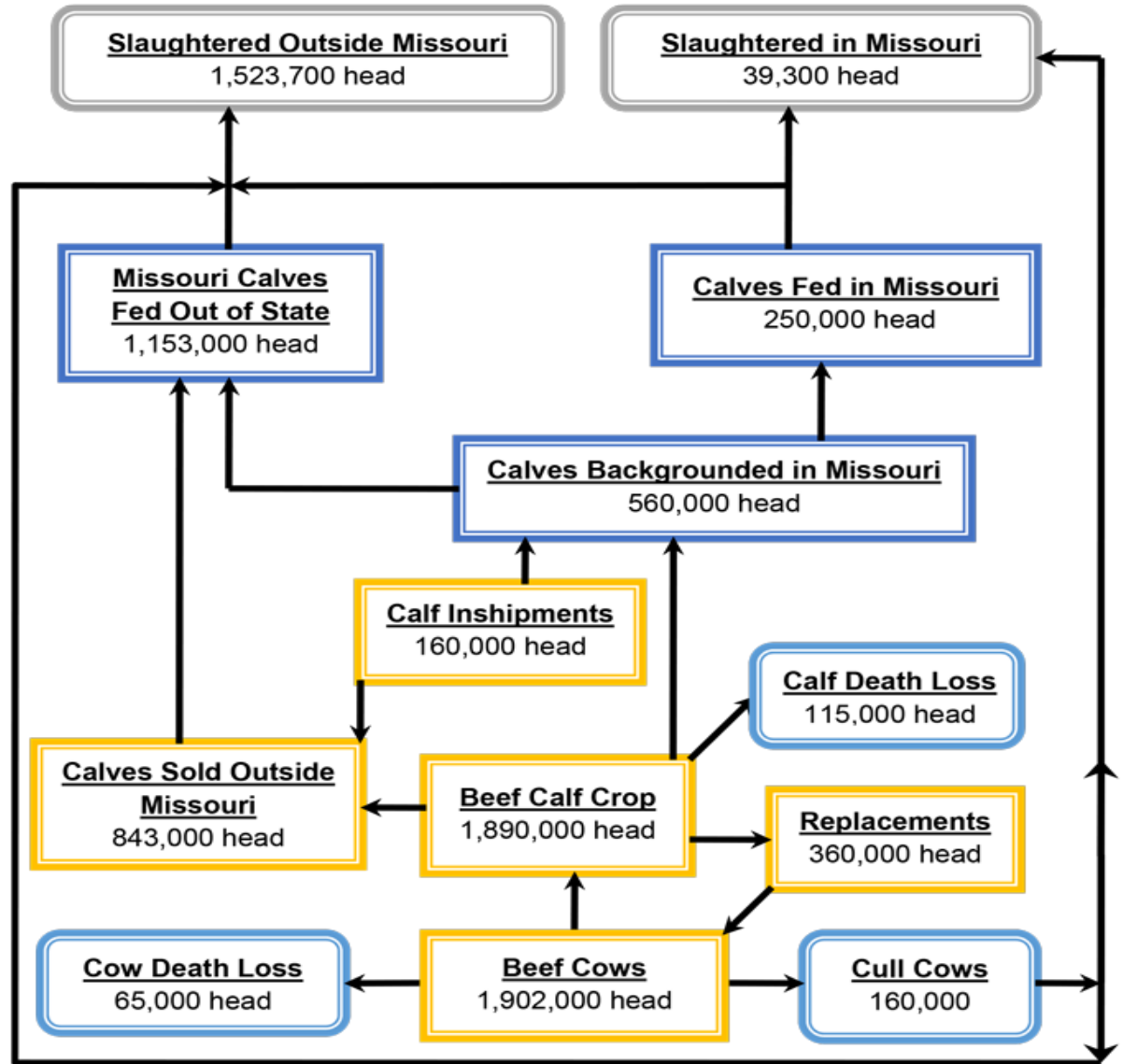
Livestock Policies

	Swine	Feeder Cattle	Fed Cattle	Lambs
Coverage level	70-100%	70-100%	70-100%	80-95%
Coverage periods (weeks)	13, 17, 21, 26	13, 17, 21, 26, 30, 34, 39, 43, 47, 52	Same as feeder cattle	13, 26, 39
Selling weights	150 to 225 lbs. (lean)	Under 600 lbs. or 600 to 900 lbs. (live)	1,000 to 1,400 lbs. (live)	50 to 150 lbs. (live)
Maximum per endorsement	10,000 head	1,000 head	2,000 head	2,000 head
Maximum per year	32,000 head	2,000 head	4,000 head	28,000 head
Ending value	CME lean hog index	CME feeder cattle index	USDA 5-area direct slaughter price	Calculated formula live price



Missouri Cattle Flowchart

2016 Calendar Year



Source: USDA, National Agricultural Statistics Service and Author Estimation

Source: Derived from USDA, National Agricultural Statistics Service data and author estimations



Missouri LRP Usage in 2018



Other Important Notes

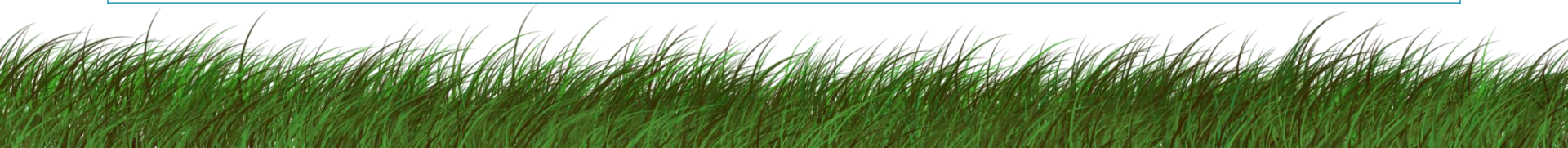
- Insurance period should be matched to the time closest to when cattle are marketed or reach desired weight
- Don't sell the livestock prior to 30 days before the end date on the specific coverage endorsement (SCE)
- Report animals that die before market date
- Premium paid at time when LRP is purchased



Feeder Cattle Policy

- Heifers, steers, Brahman or dairy cattle are eligible
- CME feeder cattle index is based on steers publicly reported (USDA-AMS) within the twelve feeder cattle producing states (including Missouri)
- Price adjustment factors are used to adjust the ending values of the CME (Chicago Mercantile Exchange) feeder cattle index

Weight Range	Steers	Heifers	Brahman	Dairy
Under 600 lbs.	110%	100%	100%	50%
600 to 900 lbs.	100%	90%	90%	50%



Sample LRP Quote

September 3, 2019
download from USDA-
RMA website

[https://www3.rma.usda.gov/
apps/livestock_reports/](https://www3.rma.usda.gov/apps/livestock_reports/)

Missouri, Feeder Cattle,
Steers < 600 Lbs.
(Weight 1)

Endorsement Length	Coverage Price	Coverage Level	Cost per Cwt.
13	\$142.41	99.31%	\$5.798
13	\$129.21	90.11%	\$1.17
17	\$139.03	97.76%	\$5.343
17	\$128.03	90.03%	\$1.63
21	\$140.80	99.30%	\$6.861
21	\$129.80	91.54%	\$2.509
26	\$136.49	96.57%	\$5.798
26	\$121.09	85.68%	\$1.261
34	\$125.40	88.08%	\$2.253



LRP Feeder Cattle Example

Producer Wants:

- Market 100 head of feeder cattle (steers)
- Target ending weight at 500 lbs./steer
- Has 100% ownership

LRP Policy Selected:

- Coverage level = 92.7%
- Coverage period = 17 weeks
- Coverage price = \$125.41



LRP Feeder Cattle Example – Premium Calculations

Step 1. Insured Value

Number of Head	X	Ending weight (cwt/hd.)	X	Coverage Price	X	Ownership Share	=	Insured Value (\$)
100	X	5	X	\$125.41	X	1.0	=	\$62,705

Step 2. Total Premium

Insured Value (\$)	X	Actuarial Rate	=	Total Premium (\$)
\$62,705	X	0.028269	=	\$1,773

Step 3. Producer Premium

Total Premium (\$)	-	Subsidy	=	Producer Premium (\$)
\$1,773	-	.13 x \$1,773	=	\$1,543

(\$3.09 per cwt. cost to producer)



LRP Example – Indemnity Calculations

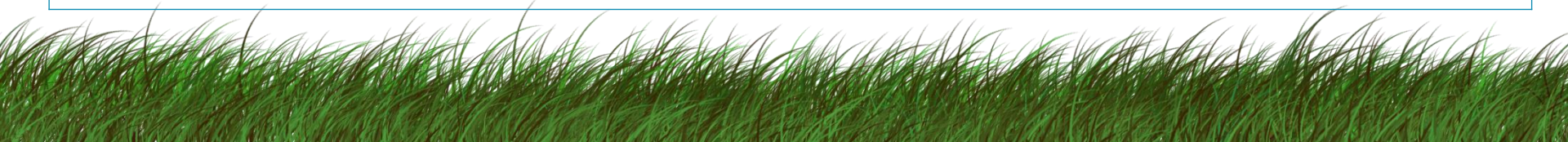
CME Feeder Cattle Index on End Date = \$100/cwt.
Note: Steer price adjustment factor of 110%, so it moves to \$110/cwt.

Step 4. Calculate Difference

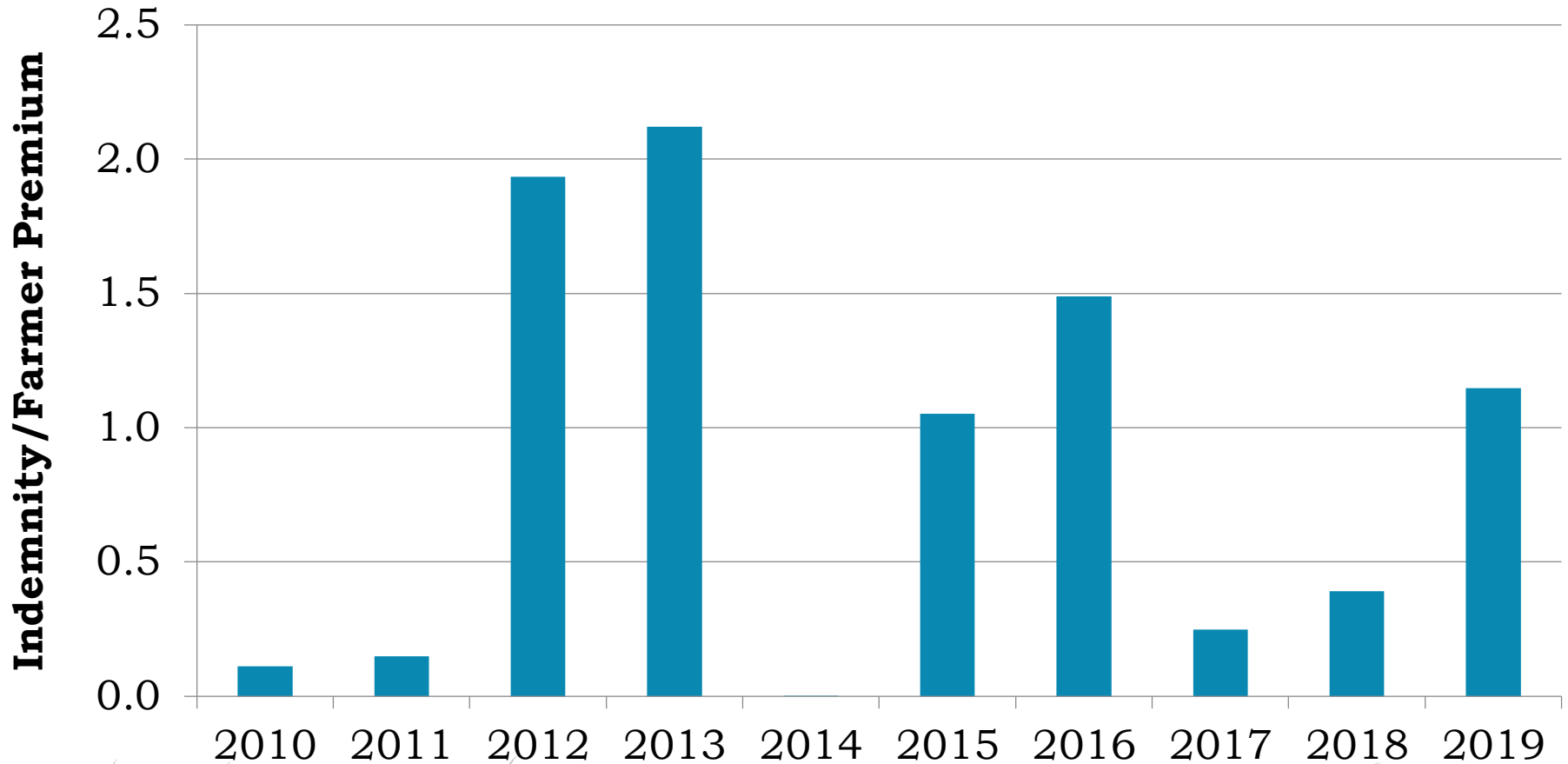
Coverage Price	-	Actual Ending Value	=	Difference (\$/cwt.)
\$125.41	-	\$110.00	=	\$15.41

Step 5. Indemnity Payment

Number of Head	X	Ending weight (cwt/hd.)	X	Difference	X	Ownership Share	=	Indemnity (\$)
100	X	5	X	\$15.41	X	1.0	=	\$7,705



LRP – Feeder Cattle – Missouri Farmer Premium Loss Ratio



Indemnity Calculations

- After accounting for farmer premium (\$1,543), net gain from LRP would be **\$6,162 or \$12.32 per cwt.**
- What happens if actual ending index = \$140/cwt.?
- Subtracting actual ending price of \$140 from the coverage price of \$125.41 = negative \$14.59/cwt.
 - Therefore, no indemnity payment is made to producer
 - This is similar to a put option that expires *worthless*



Pasture Rangeland & Forage (PRF) Insurance



Background on Missouri

- Missouri is a significant forage-production state
- 6.9 million acres in permanent pasture (USDA Census of Agriculture, 2017)
- 3.2 million acres of hay harvested annually (USDA, 2019)

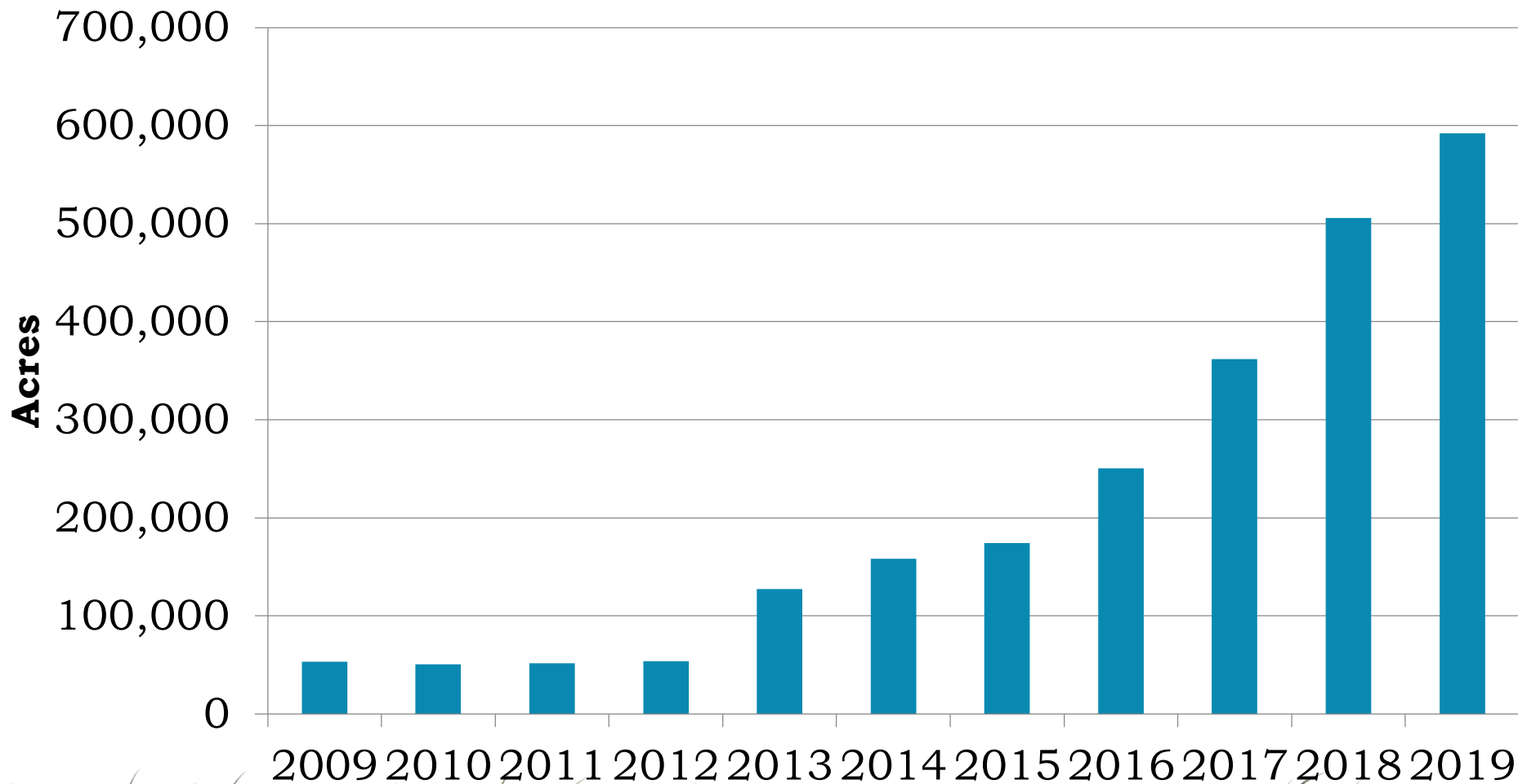


PRF Basics

- Available in Missouri since 2009
- Mitigates drought risk for forage and livestock producers
- For Missouri, it is based on a rainfall index, which provides coverage when precipitation falls below an area's long-term, historical norm
- Deadline: **November 15, 2019**

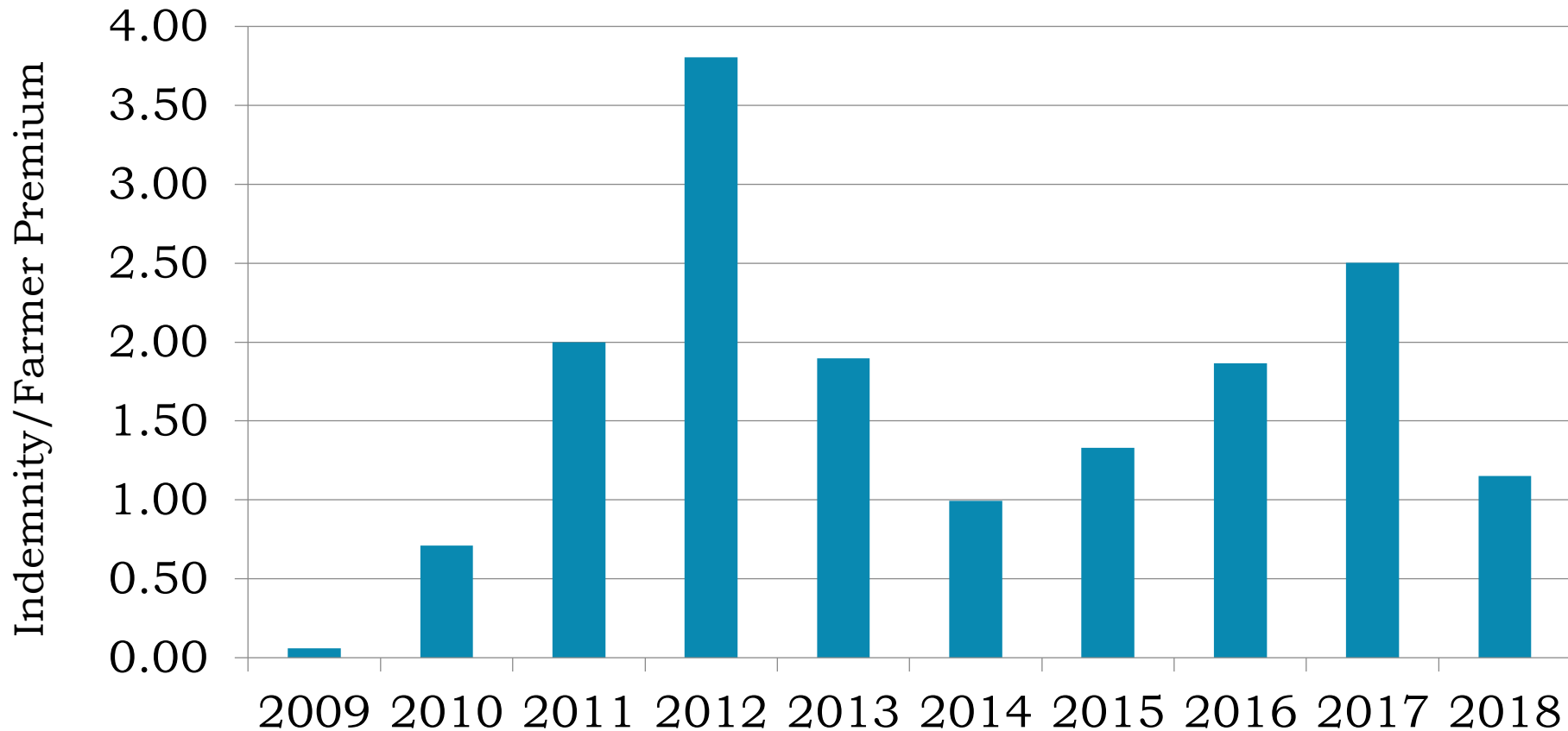


PRF Insurance – Missouri



Source: USDA – Risk Management Agency (As of January 14, 2019)

PRF Insurance – Missouri Indemnity/Farmer Premium Paid



How PRF Insurance Works

- Based on data from the NOAA Climate Prediction Center
 - Data is specific to a grid location
 - 0.25 degrees in latitude by 0.25 degrees in longitude
 - About 17 miles N-S x 13 miles E-W
- Based on multiple weather stations' precipitation **(NOT INDIVIDUAL FARM DATA)**



Producer Choices

- Different options include:
 - Intended use
 - Coverage level
 - Productivity factor
 - Index intervals
 - Grid location



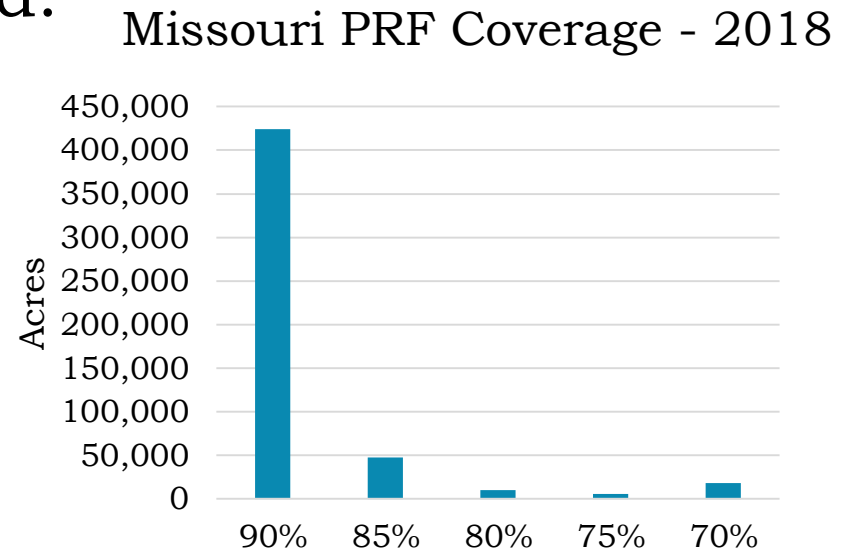
Intended Use

- Producers select coverage for either **grazing** or **haying** purposes
 - Irrigated and non-irrigated option on hay acres
- Only one purpose may be chosen per policy, but could have multiple policies on the same farm
 - Example: 50 acres in one field for grazing and another field of 50 acres for haying
- RMA assigns a base county value for each use. Missouri in 2020: Webster County
 - Grazing at \$37.50 per acre
 - Non-irrigated haying at \$148 per acre
 - <https://webapp.rma.usda.gov/apps/actuarialinformationbrowser/>



Coverage Level

- Ranges from 70 to 90% in 5% increments
- Establishes the rainfall deviation from the index when insurance pays an indemnity
- Government subsidizes the premium depending on the coverage level selected:
 - Pays 51% at the 90 level
 - 55% for 80 and 85 levels
 - 59% for 70 and 75 levels



Productivity Factor

- Producers choose a productivity factor between 60 and 150% in 1% increments
- Productivity factor adjusts the base county value (for haying or grazing) based on the productivity of the land
- Example:
 - Original county base value = \$159/acre
 - Producer selects a 150% productivity factor
 - New protection level = \$238.50/acre ($\$159 \times 150\%$)

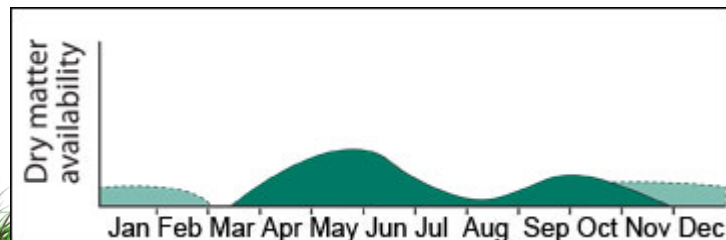


Index Intervals

- Coverage is based on two month intervals
- Consider type of forage, when precipitation is needed and intended use
- Percent of value must be allocated across intervals to equal 100 percent.
 - Minimum of 10 percent per interval
 - Maximum of 60 percent per interval

PRF Index Intervals

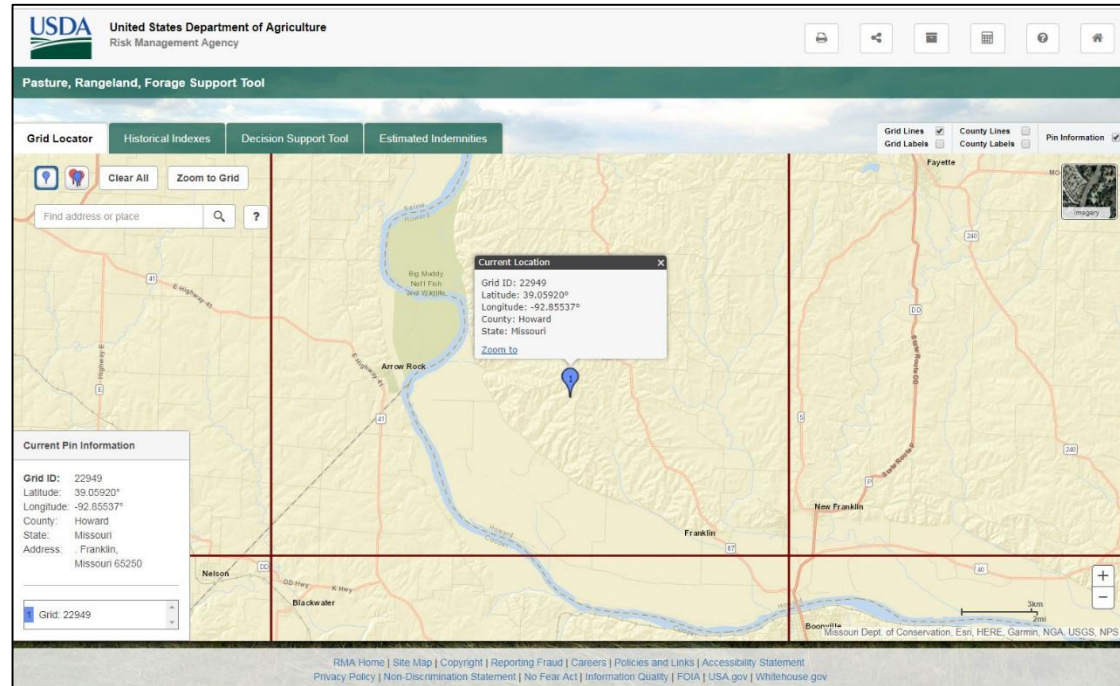
- January and February
- February and March
- March and April
- April and May
- May and June
- June and July
- July and August
- August and September
- September and October
- October and November
- November and December



Yield distribution of tall fescue in Missouri
Source: MU Extension
Guide M181

Grid Location

- Point of reference selected by the producer
- Must be within the boundaries of the insured acreage
- Non-contiguous land areas and different intended uses may require the use of multiple points



Grid Locator Tool:

<https://prodwebnlb.rma.usda.gov/apps/prf>

PRF Insurance Indemnity Payment Example

- Assumptions:
 - \$5,000 policy protection for May-June interval
 - 90 percent level of coverage (90 trigger grid index)
 - Actual rainfall index value of 50 occurs
- Calculation:
 - $((\text{trigger index} - \text{rainfall index}) / \text{trigger index}) \times \text{policy protection} = \text{indemnity payment}$
- Math:
 - $((90 - 50) / 90) \times \$5000 = \$2,222$



Decision Support Tool

- Tool developed by RMA to look at historical PRF policy information
- Allows users to select grid location and enter coverage options to view:
 - Protection level
 - Premiums
 - Subsidies
 - Index value
 - Indemnities
 - Historical indexes and sample years

Decision Support Tool: <https://prodwebnlb.rma.usda.gov/apps/prf>



Location Information

State: County: Grid ID: OR Search By Grid ID:

Protection Information

Intended Use: Irrigation Practice: Organic Practice: Coverage Level: Productivity Factor: Insurable Interest: Insured Acres: Sample Year:

Protection Table

[Export to CSV](#)

Index Interval	Percent of Value (%)	Policy Protection Per Unit	Premium Rate Per \$100	Total Premium	Premium Subsidy	Producer Premium	Actual Index Value	Estimated Indemnity
Jan-Feb	N/A	\$0	19.76	\$0	\$0	\$0	55.7	\$0
Feb-Mar	N/A	\$0	13.75	\$0	\$0	\$0	99.7	\$0
Mar-Apr	N/A	\$0	12.50	\$0	\$0	\$0	183.1	\$0
Apr-May	40	\$9,144	13.70	\$1,253	\$639	\$614	182.1	\$0
May-Jun	N/A	\$0	12.54	\$0	\$0	\$0	144.4	\$0
Jun-Jul	40	\$9,144	17.15	\$1,568	\$800	\$768	109.1	\$0
Jul-Aug	N/A	\$0	16.01	\$0	\$0	\$0	84.8	\$0
Aug-Sep	20	\$4,572	16.64	\$761	\$388	\$373	44.1	\$2,332
Sep-Oct	N/A	\$0	21.11	\$0	\$0	\$0	52.1	\$0
Oct-Nov	N/A	\$0	17.10	\$0	\$0	\$0	67.2	\$0
Nov-Dec	N/A	\$0	21.43	\$0	\$0	\$0	23.8	\$0
Per Acre	N/A	N/A	N/A	\$35.82	\$18.27	\$17.55	N/A	\$23.32
Total	100	\$22,860	N/A	\$3,582	\$1,827	\$1,755	N/A	\$2,332

Policy Information

County Base Value: Dollar Amount of Protection: Total Insured Acres: Total Policy Protection:

This tool is using insurance data from 2019.

This tool is for illustration purposes only. Your actual information may differ.

Summary

- LRP is an option for mitigating price risk
- PRF is an option for mitigating drought risk
 - Carrying feed inventory or using forage irrigation are additional options that can be used to mitigate this risk
- Contact an livestock/crop insurance agent for more information
 - <https://www.rma.usda.gov/informationtools/agentlocator>
- <https://www.agencyroot.com/app/#/rainfallpro>



Farm Service Agency Programs

Handout – You can request a fact sheet

for individual programs from the FSA office on Banning Street.

Questions / Comments

