

Livestock Risk Protection Insurance (LRP): How It Works for Feeder Cattle

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Beef producers have a limited number of tools to manage price risk associated with marketing cattle. The tools available include futures contracts, options, forward contracting and livestock risk protection insurance (LRP). Each tool brings with it a list of advantages and disadvantages, but each can be used effectively under different circumstances. Futures contracts and options are structured so one feeder cattle contract is 50,000 pounds of feeder cattle (generally 60 to 80 head), while one contract of fed slaughter cattle is 40,000 pounds. The size of the contract fits best for larger producers. However, many cow-calf producers across Tennessee and the nation do not produce a sufficient quantity of uniform calves to manage price risk using futures contracts and/or options. Thus, the focus here will be on LRP, because a producer can insure the price on as few as one head.

LRP has been used successfully as a price risk management tool by a number of

cattle producers. However, the majority of cow-calf producers continue to produce cattle without using any type of price risk protection. The purpose of this publication is to:

- 1) Describe what LRP is and how it works for feeder cattle.
- 2) Discuss the timing and availability of LRP.
- 3) Explain specific coverage endorsements, coverage basics, coverage limitations and coverage indemnification.
- 4) Provide an example to demonstrate when an indemnity is paid based on a specific policy.

What is LRP and how does it work?

Livestock risk protection insurance (LRP) is a price insurance policy developed as a price risk management tool for feeder cattle, fed cattle and swine. It is available from the Risk Management Agency (RMA) which is the same agency that provides crop insurance to farmers. LRP provides a method to establish a floor selling price for livestock, and it protects against catastrophic price declines. For feeder cattle, an LRP insurance policy pays producers if a regional/national cash price index falls below a selected coverage price. Historically, large cattle price declines have occurred due to disease outbreaks in cattle



(BSE, bovine spongiform encephalopathy) and drought (2012 drought resulting in higher feed prices). The occurrence of a foodborne illness or some other market disruption could also contribute to a catastrophic price decline.

LRP is not designed to enhance livestock producers' profits nor does it guarantee a cash price for the cattle. LRP strictly protects against declines in a regional/national cash price index. The idea is if prices in the region used to calculate the index rise then prices in other regions should have increased, and the same holds true for price declines. It does not protect against mortality, condemnation, physical damage, disease, individual marketing decisions, local price aberrations, or any other cause of loss.

LRP has a number of benefits such as providing the policyholder with flexibility in the timing of purchase, length of coverage, number of head covered (any number of head is acceptable up to the maximum), target weight of livestock at the end of coverage, and the coverage price level. The benefits of LRP compared to futures and options include no margin calls, up-front premium cost is definite compared to feeder cattle options, and no quantity minimums. A third benefit is that lenders generally understand insurance, and LRP insurance may be viewed more favorable as a price risk management tool than futures and options.

Timing and Availability

Integral components of purchasing LRP insurance include knowing when it is available for purchase, how to purchase insurance, and who to contact to purchase insurance. LRP insurance is available throughout the year for producers to purchase. Sales are typically available for cattle Monday through Friday with each sales period beginning around 5 p.m. eastern time (4 p.m. central time) and ending at 10

a.m. sharp eastern time (9 a.m. central) the following morning. It is also available Saturday morning until 9 a.m. eastern (8 a.m. central). LRP cannot be purchased on Sunday, Monday morning or holidays. The timing/availability of insurance coverage is one of the major drawbacks to the use of LRP as its availability for purchase is largely outside of "normal business" hours.

There are instances when LRP coverage is not attainable and cannot be purchased by anyone. They include:

1. Coverage cannot be approved unless accepted by the Federal Crop Insurance Cooperation's (FCIC) Underwriting Capacity Manager (UCM) website.
2. When government funding limits (daily or annual) are reached.
3. If the required data for establishing rates or coverage prices are not available.
4. If there has been a news report, announcement or other event that occurs during or after trading hours that is believed to result in market conditions significantly different than those used to rate the LRP program.
5. If there are two or more consecutive days of price limit moves on the futures contract.
6. If the RMA online system is crowded or down.

Specific Coverage Endorsements, Coverage Basics and Indemnifying Coverage

Two forms must be completed to utilize LRP. The first form is the policy/application that only needs to be completed once unless changing agents, while the second form, specific coverage endorsement (SCE), must be completed every time coverage is purchased (Figure 1). A producer must first

the end date. Potential insurance periods offered include 13, 17, 21, 26, 30, 34, 39, 43, 47 and 52 weeks. The appropriate insurance period for a producer desiring to insure a cattle price is the number of weeks closest to when the cattle will be marketed. LRP coverage levels can range from 70 percent to 100 percent of the expected ending value price (approximately the futures price for the given time period) and is calculated based on the chosen coverage price relative to the expected ending value. It is important to note not all coverage levels or all weeks of insurance periods are offered each day. Therefore, a policy meeting the goals of the operation may not be available today, but such a policy may be offered at a future date.

A producer or family member must own the cattle to insure them using LRP and ownership must be maintained until 30 days prior to the specific coverage endorsement end date for insurance to maintain its value. The day of a video auction, even if cattle are not to be delivered until sometime in the future, is considered the sale date. There is no restriction on cattle being marketed after the end date of the specific coverage endorsement. Thus, cattle do not have to be sold to receive an indemnity payment. Any portion of insured livestock disposed of prior to the last 30 days of coverage result in that portion of the coverage terminating with no indemnity being paid for neither that portion nor any of the premium being refunded. Records must be kept for three years after the end date of any specific coverage endorsement. The policyholder must retain and provide upon request complete records of the ownership of a producer's share and disposition (sale records) of all livestock insured for the applicable period(s).

LRP insurance premiums are based on an expected ending value (EEV) of the cattle and a coverage price level. The expected ending value is very near the futures price

for that particular end date and is derived from the futures market. The coverage price is a percentage of the expected ending value, chosen by the producer. The expected ending value is compared to the actual ending value (AEV), which is the cash price of the commodity on the end date, to determine if an indemnity payment is to be received by the producer/policyholder. The actual ending value is based on the weighted average price as defined in each specific coverage endorsement. For feeder cattle, the actual ending value is based on the CME feeder cattle reported index², multiplied by the price adjustment factor for the type of feeder cattle.

There are limitations on the quantity of cattle that can be insured in a federal crop year. The annual policy limit from July 1 through June 30 is 2,000 head for feeder cattle. Additionally, there are limitations per specific coverage endorsement of 1,000 head for feeder cattle, but there is no limitation on the number of specific coverage endorsements that can be written except when the number of head limitation is met. RMA subsidizes 13 percent of the premium cost of a specific coverage endorsement.



² The CME Feeder Cattle Index can be found at: www.cmegroup.com/market-data/reports/cash-settled-commodity-index-prices.html.

For the purpose of LRP feeder cattle coverage, feeder cattle are categorized by two weight ranges (Weight 1: less than 600 pounds; Weight 2: 600 to 900 pounds) and four types (steer, heifer, predominately Brahman, predominately dairy). The actual ending value is based on the CME feeder cattle cash index price which is a national average cash market price for 650- to 850-pound steers. The reported index is a seven-day weighted average of USDA reported prices from a 12 state region (Colorado,

Worksheet 2 is an example of how LRP indemnity payments are calculated and what the actual realized price would be given three different actual ending value price scenarios. One of the first questions many producers considering purchasing insurance will ask is if they can afford to pay for the insurance. A better question is if a producer can afford not to have insurance. Worksheet 1 and Worksheet 2 (found at the end of this publication) can be used to answer both questions.

Table 1. Livestock Risk Protection Feeder Cattle Price Adjustment Factors^a

Weight	Steers	Heifers	Brahman	Dairy
Weight 1 (< 600 pounds)	110%	100%	100%	85%
Weight 2 (600-900 pounds)	100%	90%	90%	80%

^a Multiply feeder cattle index by Price Adjustment Factor to calculate expected ending value (EEV), coverage prices, and actual ending value (AEV).

Iowa, Kansas, Missouri, Montana, Nebraska, New Mexico, North Dakota, Oklahoma, South Dakota, Texas and Wyoming) using prices from auctions, video and Internet sales, and direct trades. If insuring heifers or a different weight range, the LRP insurance contract is still indemnified on the CME feeder cattle cash index price (650- to 850-pound steer price). Price adjustment factors by weight class and cattle type are available in Table 1 for LRP feeder cattle.

Indemnifying of Insurance Coverage Example

An example worksheet for LRP feeder cattle is available in Worksheet 1 to demonstrate the calculation of premiums paid and cost per head for LRP insurance.

Considering Worksheet 1 and assuming a producer is considering purchasing LRP on 20 steer calves projected to weigh 700 pounds at time of marketing in 21 weeks, what is the total insurance premium cost and what is the per head cost? The total insurance premium cost is dependent on the coverage price, coverage rate (premium rate), weight of the animal, and the number of animals being insured. Considering the available coverage prices and rates available in Figure 2, there are four coverage price levels available for a 21-week endorsement. For illustration purposes, suppose a producer chose the coverage price, coverage level and rate highlighted in Figure 2. With this information, the total premium and the cost per head can be calculated using Worksheet 1.

Figure 2. Livestock Risk Protection Coverage Prices, Rates and Actual Ending Values for 03/10/2014.

State	County	Endorsement Length	Commodity	Type	Practice	Crop Year	Exp. End Value	Coverage Price	Coverage Level	Rate	Cost Per CWT	End Date	Actual End Value
47 Tennessee	998 All Counties	13	0801 Feeder Cattle	810 Steers Weight 2	997 No Practice Specified	2014	177.034	\$175.030	0.988700	0.019802	3.466	06/09/2014	
47 Tennessee	998 All Counties	17	0801 Feeder Cattle	810 Steers Weight 2	997 No Practice Specified	2014	177.591	\$159.590	0.898600	0.002889	0.461	07/07/2014	
47 Tennessee	998 All Counties	21	0801 Feeder Cattle	810 Steers Weight 2	997 No Practice Specified	2014	177.913	\$175.910	0.988700	0.024194	4.256	08/04/2014	
47 Tennessee	998 All Counties	21	0801 Feeder Cattle	810 Steers Weight 2	997 No Practice Specified	2014	177.913	\$173.910	0.977500	0.019838	3.450	08/04/2014	
47 Tennessee	998 All Counties	21	0801 Feeder Cattle	810 Steers Weight 2	997 No Practice Specified	2014	177.913	\$171.910	0.966300	0.016125	2.772	08/04/2014	
47 Tennessee	998 All Counties	21	0801 Feeder Cattle	810 Steers Weight 2	997 No Practice Specified	2014	177.913	\$169.910	0.955000	0.013025	2.213	08/04/2014	

Worksheet 1: Premium Cost Example

Twenty head (Worksheet 1: Line 1 which will be denoted as W1:L1) of steers weighing 700 pounds (W1:L2) results in the coverage of 14,000 pounds (W1:L3) or 140 hundredweight (cwt.) of feeder cattle (W1:L4). As previously stated, the steers are expected to be marketed in 21 weeks and thus an endorsement length of 21 weeks (W1:L5) is used. The expected ending value for a 21-week endorsement is 177.913 (W1:L6) and the coverage price chosen is \$171.91 (W1:L7) which results in a coverage level of 0.9663 or 96.63 percent (W1:L8). The premium rate associated with the coverage price is 0.016125 (W1:L9) resulting in a cost per hundredweight of \$2.772 (W1:L10). The USDA subsidizes LRP at a rate of 13 percent (W1:L11) resulting in a subsidized cost per hundredweight of \$2.412 (W1:L12). The total insured value of 20 steers weighing 700 pounds is \$24,067.40 (W1:L13) resulting in a total producer premium of \$337.64 (W1:L14). Thus the total premium cost per head is \$16.88 (W1:L15).

Worksheet 2: Indemnity Payment Example

LRP insurance is indemnified only on the effective ending date of the policy. Worksheet 2 is constructed to illustrate indemnity payments based on the actual ending value of the CME feeder cattle index (W2:L1) being less than or greater than the purchased coverage price. Worksheet 2 also helps in the calculation of the actual (realized) price received for the cattle marketed. If the coverage price of \$171.91 (W2:L4) is less than the actual ending value of the CME feeder cattle index (W2:L1) then no indemnity payment is received. If the coverage price is greater than the actual ending value then an indemnity payment is due the insurance policyholder. In the example, if the actual ending value is \$165.00 per hundredweight and the coverage price is \$171.91 per hundredweight, then the policyholder would receive an indemnity payment of \$6.91 per hundredweight (W2:L5) or \$48.37 per head (W2:L8) for a 700-pound steer. The total indemnity payment for the 20 steers would be \$967.40 (W2:L9).

The indemnity payment received from an insurance policy is not contingent on the actual cash price received when a producer markets cattle. It is assumed in Worksheet 2 that the cash price received by the producer is \$10 per hundredweight (W2:L2) less than actual ending value which is a -\$10 basis. The term basis actually refers to the difference in the cash price and the futures price (Cash Price – Futures Price = Basis) on a given day. However, basis in this example is the difference between the cash sale price and the actual ending value, because the actual ending value will be very near the futures price on the day of policy indemnification. Thus, the producer's realized price per hundredweight would be the cash sale price (W2:L3) plus the insurance indemnity payment (W2:L5) minus the subsidized cost of insurance (W2:L10). Given the example, the producer received a cash price of \$155.00 per hundredweight (W2:L3) plus an indemnity payment of \$6.91 per hundredweight (W2:L5) at a cost of \$2.41 per hundredweight (W2:L10) resulting in a realized price of \$159.50 per hundredweight (W2:L11). Worksheet 1 and Worksheet 2 with blanks provided to evaluate a given policy offering are included at the end of

this publication and are labeled as Worksheet 3 and Worksheet 4.

As mentioned earlier, cattle do not have to be marketed on the insurance policy end date. However, failure to market cattle on or as close to the policy end date as possible increases price risk associated with marketing cattle. For example, if cattle were not marketed until four weeks after the end date then cattle prices could increase, decrease or stay the same. Regardless of whether an indemnity payment was received, a price decrease would result in a loss to the producer whereas a price increase could benefit a producer.

Conclusion

Livestock risk protection insurance can be used effectively by cattle producers with any number of head. **LRP is a price risk management tool available to livestock producers to protect against major financial losses due to catastrophic price declines. It is not meant to increase cattle producer profits, but is rather meant to reduce losses when prices decline and save the producer from losing the farm.** It may be easiest to think of purchasing insurance as a business expense to insure the business has long-term viability

Worksheet 1. Livestock Risk Protection Insurance Premium Calculation

Line	Item	Values	Description/Calculation
1	Number of head to be covered	<u>20</u>	Chosen by the producer
2	Projected selling weight (lbs.)	<u>700</u>	Expected weight of cattle by sale date
3	Total pounds of coverage (lbs.)	<u>14,000</u>	Line 1 × Line 2
4	Total cwt. of coverage (cwt.)	<u>140</u>	Line 3 ÷ 100
5	Endorsement length (weeks)	<u>21</u>	Available on LRP Coverage website ^a
6	Expected ending value (EEV)	<u>177.913</u>	Available on LRP Coverage website
7	Coverage price (\$/cwt.)	<u>171.91</u>	Available on LRP Coverage website
8	Coverage level (%)	<u>96.63%</u>	Line 7 ÷ Line 6
9	Premium rate (Rate)	<u>0.016125</u>	Available on LRP Coverage website
10	Cost per cwt. (\$/cwt.)	<u>2.772</u>	Line 7 × Line 9
11	Subsidy (%)	<u>13%</u>	USDA subsidy rate is 13 percent
12	Subsidized cost per cwt. (\$/cwt.)	<u>2.412</u>	Line 10 × (1 - Line 11)
13	Insured value (Total \$ insured)	<u>24,067.40</u>	Line 4 × Line 7
14	Producer total premium (\$)	<u>337.64</u>	Line 13 × (1 - Line 11) × Line 9
15	Premium cost per head (\$/head)	<u>16.88</u>	Line 14 ÷ Line 1

^a LRP Coverage website: www3.rma.usda.gov/apps/livestock_reports/main.aspx

Worksheet 2. Livestock Risk Protection Insurance Indemnity Payment and Realized Price

Line	Item	Price Scenario Values			Description/Calculation
1	Actual Ending value (\$/cwt.)	<u>165.00</u>	<u>170.00</u>	<u>175.00</u>	Chosen for demonstration purpose
2	Basis (\$/cwt.)	<u>-10.00</u>	<u>-10.00</u>	<u>-10.00</u>	Futures price - Cash price
3	Cash sale price (\$/cwt.)	<u>155.00</u>	<u>160.00</u>	<u>165.00</u>	Line 1 + Line 2
4	Coverage price (\$/cwt.)	<u>171.91</u>	<u>171.91</u>	<u>171.91</u>	Available on LRP Coverage website
5	Indemnity per cwt. (\$/cwt.)	<u>6.91</u>	<u>1.91</u>	<u>0.00</u>	If Line 4 is less than Line 1 then indemnity payment is \$0 Otherwise: Line 4 - Line 1
6	Number of head covered	<u>20</u>	<u>20</u>	<u>20</u>	Chosen by the producer
7	Selling weight (lbs.)	<u>700</u>	<u>700</u>	<u>700</u>	Weight of cattle at sale date
8	Indemnity per head (\$/head)	<u>48.37</u>	<u>13.37</u>	<u>0.00</u>	Line 5 × (Line 7 ÷ 100)
9	Total indemnity	<u>967.40</u>	<u>267.40</u>	<u>0.00</u>	Line 6 × Line 8
10	Subsidized cost per cwt. (\$/cwt.)	<u>2.412</u>	<u>2.412</u>	<u>2.412</u>	Subsidized cost from worksheet 4
11	Realized price per cwt. (\$/cwt.)	<u>159.50</u>	<u>159.50</u>	<u>162.59</u>	Line 3 + Line 5 - Line 10

Worksheet 3. Livestock Risk Protection Insurance Premium Calculation

Line	Item	Values	Description/Calculation
1	Number of head to be covered	_____	Chosen by the producer
2	Projected selling weight (lbs.)	_____	Expected weight of cattle by sale date
3	Total pounds of coverage (lbs.)	_____	Line 1 \times Line 2
4	Total cwt. of coverage (cwt.)	_____	Line 3 \div 100
5	Endorsement length (weeks)	_____	Available on LRP Coverage website ^a
6	Expected ending value (EEV)	_____	Available on LRP Coverage website
7	Coverage price (\$/cwt.)	_____	Available on LRP Coverage website
8	Coverage level (%)	_____	Line 7 \div Line 6
9	Premium rate (Rate)	_____	Available on LRP Coverage website
10	Cost per cwt. (\$/cwt.)	_____	Line 7 \times Line 9
11	Subsidy (%)	_____	USDA subsidy rate is 13 percent
12	Subsidized cost per cwt. (\$/cwt.)	_____	Line 10 \times (1 - Line 11)
13	Insured value (Total \$ insured)	_____	Line 4 \times Line 7
14	Producer total premium (\$)	_____	Line 13 \times (1 - Line 11) \times Line 9
15	Premium cost per head (\$/head)	_____	Line 14 \div Line 1

^a LRP Coverage website: www3.rma.usda.gov/apps/livestock_reports/main.aspx

LRP: How It Works for Feeder Cattle

Worksheet 4. Livestock Risk Protection Insurance Indemnity Payment and Realized Price

Line	Item	Price	Scenario	Values	Description/Calculation
1	Actual Ending value (\$/cwt.)	_____	_____	_____	Chosen for demonstration purpose
2	Basis (\$/cwt.)	_____	_____	_____	Futures price - Cash price
3	Cash sale price (\$/cwt.)	_____	_____	_____	Line 1 + Line 2
4	Coverage price (\$/cwt.)	_____	_____	_____	Available on LRP Coverage website
5	Indemnity per cwt. (\$/cwt.)	_____	_____	_____	If Line 4 is less than Line 1 then indemnity payment is \$0 Otherwise: Line 4 - Line 1
6	Number of head covered	_____	_____	_____	Chosen by the producer
7	Selling weight (lbs.)	_____	_____	_____	Weight of cattle at sale date
8	Indemnity per head (\$/head)	_____	_____	_____	Line 5 × (Line 7 ÷ 100)
9	Total indemnity	_____	_____	_____	Line 6 × Line 8
10	Subsidized cost per cwt. (\$/cwt.)	_____	_____	_____	Subsidized cost from worksheet 6
11	Realized price per cwt. (\$/cwt.)	_____	_____	_____	Line 3 + Line 5 - Line 10

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