NebGuide
University of Nebraska–Lincoln Extension, Institute of Agriculture and Natural Resources

G2257

Livestock Risk Protection Insurance for Fed Cattle

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This NebGuide discusses the use of Livestock Risk Protection (LRP) Insurance as a price risk tool for fed cattle producers.

The USDA's Risk Management Agency (RMA) administers and offers a single-peril insurance program, Livestock Risk Protection (LRP) Insurance. LRP is a price-risk management tool available to feeder and fed cattle producers as well as swine and lamb producers. LRP polices may be purchased through a licensed livestock insurance agent and allow producers to protect against the risk of national prices falling below an established coverage price. While LRP covers against insured price declines, the insurance policy does not cover production or mortality risks. This NebGuide discusses how to use LRP in a fed cattle example along with a discussion on management implications.[1]

Similar to a put option, LRP allows producers to establish a floor price while leaving the upside price potential open. In order to establish the floor price, producers pay a subsidized premium for the price insurance. Unlike market contracts and options, LRP does not require a margin account and broker. LRP also has the advantage of not having a fixed contract size. Producers may select the number of head and the specific ending weights of the cattle they wish to insure. In addition, LRP premiums are subsidized 13 percent by the government.

Fed Cattle Insurance Elements

Producers must buy LRP-Fed Cattle Insurance through an RMA-approved livestock insurance agent. You can complete an application at any time. However, insurance coverage does not attach until you purchase LRP coverage by filing a Specific Coverage Endorsement (SCE). Fed cattle LRP policies insure that heifers and steers are marketed for slaughter with an expected grade of select or higher, yield grade of 4 or better and ending live weight between 1,000 to 1,400 pounds at the end of the insurance period. LRP is offered for 13, 17, 21, 26, 30, 34, 43, 47 or 52-week periods, but coverage for all periods may not be available on a given day. Producers should purchase the insurance with an ending date that matches their risk management objectives. The endorsement length should reflect the time between filing of the SCE and expected marketing of the fed cattle. However, ownership of the animals may be retained after the insurance period without affecting the policy coverage. In order for coverage to be provided, the premium must be paid on the day the insurance is purchased.

LRP Insurance contains a number of provisions. Producers may insure between 1 to 2,000 head of fed cattle per SEC. From July 1 to June 30 each year, a producer may insure up to 4,000 head total. Ownership of fed cattle insured under an SEC must be maintained until at least 30 days prior to the end date of coverage. If sold prior to the 30 days, the coverage may be transferred to the new owner or forfeited. Coverage prices range between 70 percent and 100 percent of the expected ending value depending upon options available on a given day. Daily LRP coverage prices, rates, actual ending values and per hundredweight cost of insurance can be viewed at RMA's website: *http://www3.rma.usda.gov/apps/livestock_reports/main.aspx*. Not all coverage levels may be available on a given day.

Actual ending values for the LRP policy are posted at the end of the insurance period. Ending values for fed cattle are determined from the weekly report titled "5-Area Weekly Weighted Average Direct Slaughter Cattle" released by the Agricultural Marketing Services (AMS). The price series used from this report is the Live Basis Sales, Steers, 35-65 percent Choice category. The report may be accessed via the website: *http://www.ams.usda.gov/mnreports/lm_ct150.txt*. Ending values for an insurance policy are calculated from the AMS report released during the week which contains the end date for that endorsement. If for any reason a report is not available for a specific week, the price will be calculated on the latest report made prior to the end date. The actual end value is compared to the coverage price to determine whether or not an indemnity will be paid.

[1] LRP Insurance for other livestock operates in a similar fashion but has some differences in the contract specifications.

How Livestock Risk Protection Works

Once a producer's application for coverage is approved, the producer can activate coverage by applying for an SCE at any time. When using LRP Insurance, a producer will select a coverage price in order to hedge against downside price risk. The coverage price is based on a percentage coverage level, between 70 and 100 percent, of an expected ending value of the fed cattle to be insured. The expected ending values reflect the expected price of fed cattle when the coverage period ends. These are posted daily on the RMA website: *http://www3.rma.usda.gov/apps/livestock_reports/main.aspx*.

As an example for fed cattle in Nebraska, the total insured value (coverage price multiplied by the number of cattle and weight of the cattle), producer's premium and the indemnity based on the producer's chosen endorsement length and coverage level can be calculated.

Assume a Nebraska producer has 100 head of fed steers and heifers in August. The owner plans to have the fed cattle finished by mid-December and market them or deliver them to a packer at that time. The cattle feeder has 100 percent interest in the steers and heifers. Based upon the owner's risk management decision, he would like to purchase LRP-Fed Cattle Insurance on them with an end date in mid-December. An LRP-Fed Cattle Insurance policy insures cattle that are "heifers and steers" under one policy based on a "target weight" representing an expected average ending weight across all covered cattle. In this case, the producer expects the finished steers and heifers to weigh on average approximately 1,300 pounds in mid-December.[2] The August 22, 2014 RMA actuarial data the producer will use is found in *Table 1*.[3] Using the producer's decision point of December, the LRP-Fed Cattle endorsement length will be 17 weeks. The expected ending value for the 17-week endorsement period is $149.25 per hundredweight (*Table 1*) for all coverage levels with the contract end date of December 19, 2014.

Suppose the producer decides to purchase a coverage level of 99.35 percent so the coverage price will be $148.28 per hundredweight at a premium rate of 0.038812.

Insured Value and Premium Calculations:

Example 1. Insured value and premium calculations for LRP-Fed Cattle

		Example	*Your Case*
1.	Number of head (whole number)	*100*	
2.	Target Weight at end date (cwt. per head)	*13.00 cwt*	
3.	Coverage price (see *Table 1*)	*$148.28*	
4.	Insured Share (x.xx)	*1.00*	
5.	**Total Insured Value** (Line 1 X Line 2 X Line 3 X Line 4)	***$192,764***	
6.	Rate (see *Table 1*)	*0.038812*	
7.	**Total Premium** ($) (Line 5 X Line 6) (round to nearest whole dollar)	***$7,482***	
8.	Subsidy rate (percent)	*13%*	*13%*
9.	**Subsidy** (rounded to nearest $) (Line 7 X Line 8)	***$973***	
10.	**Producer Premium** (Line 7 – Line 9)	***$6,509***	

[2] The target weight for fed cattle marketed under an LRP Insurance policy is the average weight for all steers and heifers covered. This average accounts for differences in market weights between heifers and steers.

[3] Not all coverage levels or endorsement periods will be available each day. *Table 1* shows a subset of the options that were available on August 22, 2014.

Indemnity Calculation:

In the event that the actual ending value is less than the coverage price, an indemnity would be due. Alternatively, in the event the actual ending value is greater than the coverage price, an indemnity would not be due. The actual ending value per hundredweight for fed cattle is determined at the end of the insurance period. Indemnities are calculated as the number of head multiplied by the target weight (in hundredweight per head), multiplied by the difference between the coverage price and the actual ending value (in dollars per hundredweight) and then multiplied by the ownership share (percentage). Actual fed cattle sale weights and prices received by the producer at the end of the endorsement period **do not** enter into indemnity calculations.

Continuing with *example 1*, assume that on the end date of coverage, the "5-Area Weekly Weighted Average Direct Slaughter Cattle" price increases to $152.75. An indemnity in this case will not be paid because the actual ending value is greater than the coverage value of $148.28. However, in the case where the "5-Area Weekly Weighted Average Direct Slaughter Cattle" price declines to $140.50 on the end date of coverage, an indemnity will be paid since the actual ending value is less than the coverage price ($148.28 - $140.50 = $7.78). The indemnity is calculated as follows:

Example 2. Indemnity Calculations for LRP-Fed Cattle Example

		Example	*Your Case*
1.	Number of head (whole number)	*100*	
2.	Target Weight at end date (cwt. per head)	*13.00 cwt*	
3.	Coverage price (see *Table 1*)	*$148.28*	
4.	Actual Ending Value	*$140.50*	
5.	Coverage Price minus Actual Ending Value (line 3 – line 4)	*$7.78*	
6.	Insured Share (x.xx)	*1.00*	
7.	**Total Indemnity** (line 1 X line 2 X line 5 X line 6)	***$10,114***	

Note that the producer would have paid a premium of $6,509 for the insurance coverage. The net benefit calculates to $3,605.

An indemnity is paid anytime the actual ending value falls below the coverage price. In the indemnity example above, a minimum net sales price equal to the coverage price of $148.28/cwt can be obtained by using the LRP indemnity of $7.78 along with selling the fed cattle in the cash market at $140.50/cwt. If the fed cattle are sold for more than the $140.50 /cwt in the cash market, the producer would receive a net price higher than the insured coverage price. Alternatively, if the producer sells the fed cattle in the cash market for less than $140.50/cwt, the net price received will be less than the insured coverage price. The basis (difference between the "5-Area Weekly Weighted Average Direct Slaughter Cattle" price and the actual cash market sale price) is an important component of price risk for fed cattle. When using LRP to manage price risk, the producer must keep in mind that the insurance tool does not lock in basis, and thus, it does not eliminate or reduce basis risk. Producers need to understand and anticipate the basis in the market in which they sell cattle. Different arrangements involving the marketing of fed cattle may be available to reduce basis risk.

Applying for LRP

A fed cattle producer must apply for an LRP policy through a licensed crop or livestock insurance agent. Eligible agents can be found using the Agent Locator Tool provided by the USDA: *http://www3.rma.usda.gov/apps/agents/index.cfm*. The application process establishes a producer's eligibility to purchase LRP insurance. Enrollment in the program is free and establishes the right, but not the obligation, to purchase coverage. After the application is accepted, producers can purchase LRP coverage by filing a SCE with a licensed LRP agent, who will verify the number of fed cattle that will be insured. Producers establish coverage level, insured value, premium and the length of coverage when they file the SCE. Coverage can be purchased from the time rates are set and validated from about 3:30 p.m. Central time zone until approximately 9:00 a.m. Central time zone the following day.

LRP Implications for Producers

LRP insurance serves as a risk management tool for producers to guard against declines in fed cattle prices. At the basic level, the LRP program provides a price floor for fed cattle but allows for the potential of higher fed cattle prices. The insurance program does not cover sickness or death of the cattle. LRP does not protect overall revenue since only a floor price is established for the fed cattle while feed cost can still fluctuate. Basis risk (the risk that basis declines relative to their forecast used to create their expected minimum sale price) is also another source of price risk that LRP does not eliminate.

As fed cattle prices have reached new record prices, the potential for declines in their value have increased as well. The LRP Insurance policy has advantages and disadvantages over other risk management tools available for managing declines in cattle prices. The value of the LRP insurance policy will depend upon the premiums for the contracts relative to other risk management tools available to the producer. The LRP program offers another alternative for producers to manage fed cattle price risk. This insurance tool allows for a flexible number of cattle to be insured at a given point in time.

Table 1. LRP Expected End Values, Coverage Prices, and Rates for Nebraska Fed Cattle, Steers & Heifers, August 22, 2014 [a]

Endorsement Length	*Crop Year*	*Exp. End Value Per CWT*	*Coverage Price Per CWT*	*Coverage Level*	*Rate*	*Cost Per CWT*	*End Date*
13	2015	$147.859	$146.01	0.9875	0.030697	$4.482	11/21/2014
13	2015	$147.859	$140.01	0.9469	0.014792	$2.071	11/21/2014
13	2015	$147.859	$130.01	0.8793	0.003861	$0.502	11/21/2014
17	2015	$149.250	$148.28	0.9935	0.038812	$5.755	12/19/2014
17	2015	$149.250	$142.28	0.9533	0.020685	$2.943	12/19/2014
17	2015	$149.250	$134.28	0.8997	0.007939	$1.066	12/19/2014
21	2015	$149.668	$148.69	0.9935	0.041314	$6.143	01/16/2015
21	2015	$149.668	$142.69	0.9534	0.023688	$3.380	01/16/2015
21	2015	$149.668	$134.69	0.8999	0.010350	$1.394	01/16/2015

Source: *http://www3.rma.usda.gov/apps/livestock_reports/main.aspx*

[a] Not all coverage levels or endorsement periods will be available each day. *Table 1* shows a subset of the options that were available on August 22, 2014.

This publication has been peer reviewed.

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Index: Farm Management
Beef
Issued March 2015