Understanding USDA's Livestock Risk Protection Insurance Program for Feeder Cattle
(AEC 2008-04)

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July 2008

Since the summer of 2007, the Livestock Risk Protection (LRP) Insurance program has been available to Kentucky cattle producers. Due to recent volatility in the cattle market, interest in price risk protection has increased. Traditionally, livestock producers have used either forward contracts or futures/options trading to manage this price risk. LRP insurance provides another option that producers can now use to do this. The purpose of this publication is to familiarize the reader with how the LRP insurance program works and compare it with other feeder cattle price risk management options. A case example is included to show how this insurance program works in a real-life situation.

Livestock Risk Protection (LRP) Program Basics

Livestock Risk Protection Insurance is designed to give producers downside price risk protection. Insurance payments (also known as indemnity payments) are based on an insured coverage price and the actual ending value of the CME Feeder Cattle Cash Price Index, which represents the 7-day weighted average price of 650 – 850 lb feeder steers in a 12 state area.[1] This is the same index used to cash-settle open CME feeder cattle contracts at expiration. For that reason, this index will generally be very close to CME feeder cattle futures prices. When you purchase LRP insurance, you are buying a policy that pays an indemnity if the CME Feeder Cattle Cash Index falls below the insured coverage price, which is based on the expected ending value (EEV) at the end of the policy. As a result, indemnities are based on changes in the Feeder Cattle Cash Index rather than actual price changes at your local stockyard.

As a simple illustration, consider a producer who purchased an insurance policy with a coverage price of $105 per cwt. The producer would pay an insurance premium for this policy on the day it becomes effective, and the policy would remain in place until the specified ending date. If the CME Feeder Cattle Cash Index Price was above $105 per cwt on its ending date, then the producer would not receive an indemnity payment. If the index is below $105 per cwt on the ending date, then the producer would receive an indemnity for the difference. For example, if the CME Feeder Cattle Cash Index Price was $102 on the expiration date and the producer had insured 700 pound calves, then the indemnity payment would be $21 per calf [7 cwt x ($105-$102)].

It is important to understand that insurance indemnities are based on changes in the CME Feeder Cattle Cash Index Price and not local markets in Kentucky. Thus, it is possible that the local market could drop but the index stay constant. However, Kentucky cattle markets and the CME Feeder Cattle Cash Index generally move together. Fundamental factors that affect cattle prices in one market should similarly affect cattle in the overall market represented by the CME Feeder Cattle Cash Index. When corn prices increase, this will tend to put downward pressure on feeder cattle prices throughout the country. As fundamentals bring about increases in live cattle prices, this will tend to put upward pressure on feeder cattle prices across all states. There are times when prices in Kentucky do not move perfectly with the western cattle prices represented by the index. For example, a drought in Kentucky may force more cattle on Kentucky markets and push local prices down, while prices in other regions remain unaffected. Just as basis risk exists in commodity futures, producers run the risk of local prices falling by more than prices represented by the index and the indemnity not fully compensating them.

[1] CO, IA, KS, MO, MT, NE, NM, ND, OK, SD, TX, and WY

Purchasing LRP Coverage

LRP insurance can be purchased through licensed crop insurance agents. The first step is to fill out an enrollment form. Enrollment is free and once processed allows you to purchase coverage. Having the enrollment form completed beforehand ensures that you can purchase coverage when needed. The next step is to fill out a "Specific Coverage Endorsement" form on the day you want the policy to become effective.

Eligibility requirements are fairly simple. Cattle must be held in the state that is specified by the insurance policy (Kentucky is one of the states currently covered by this program). Purchasers of insurance are also required to have at least 10% ownership in the cattle (and they can only insure their interest in the cattle). This product is not intended for speculation, so the purchaser could be asked to provide proof of ownership when purchasing the coverage or at a later date. Although these are some general requirements, specific questions should be directed to your insurance agent.

The minimum contract length, called the endorsement length, for LRP coverage is 13 weeks. Thus LRP cannot be used to manage short term price risk. Ending dates are available in four week increments, although the availability of an ending date depends on options volume for deferred contracts traded at the CME that day. For example, there may be five coverage levels for a specific ending date when you check on Monday, and only two when you inquire again on Tuesday. Coverage levels, premiums, and available ending dates change on a daily basis (calculated by the USDA) because they are based on actual futures and options trades. Contact your local crop insurance agent to determine specific hours when LRP coverage can be purchased.

As previously mentioned, the CME Feeder Cattle Cash Index is the 7-day weighted average of 650-850 lb feeder steers in a 12 state area to the west. However, LRP insurance is available for steers and heifers of different weights as well as different breed-types. Adjustments are made for lighter steers and heifers, as well as dairy-type and Brahman calves as can be seen in Table 1. Prices are scaled up or down for these other cattle to reflect differences in value. For example, if the CME Feeder Cattle Cash Index were $100 per cwt, light steers would be considered indexed at $110 per cwt. and heavy heifers would be indexed at $90 per cwt. This adjustment is made in order to bring the coverage price closer to the actual cash value of those cattle.

Table 1 – Adjustments in CME Feeder Cattle Index for Cattle Size and Type

	Steers	Heifers	Dairy	Brahman
Light: Less than 600 lbs	110%	100%	85%	100%
Heavy: 600 lbs to 900 lbs	100%	90%	80%	90%

Note: Weight of cattle at the expiration date of the policy is estimated by the producer when the insurance policy is obtained.

Comparing LRP Insurance to Other Risk Management Options

Purchasing LRP insurance is similar to purchasing a put option at the Chicago Mercantile Exchange (CME) in that your coverage price works much like a strike price. Where an option contract would move into the money when the futures price fell below a strike price, LRP insurance will pay an indemnity when the CME Feeder Cattle Cash index is below a certain coverage level on a specified ending date. However, there are several advantages with the LRP program over futures trading. First, producers may already have a working relationship established with an insurance agent who selling LRP insurance. Second, commission is not paid by the producer for LRP insurance whereas it would be paid when purchasing a put option. Finally, the LRP program allows coverage for smaller cattle operations. This is in contrast to futures/options contracts that must be purchased in increments of 50,000 lbs, a size too large for many backgrounders and the majority of cow-calf operators in Kentucky. The flexibility of the LRP program allows producers to cover a much smaller number of cattle.

A major disadvantage of the LRP program is that it does not have flexibility in closing the contract. Once purchased, LRP insurance cannot be sold back like futures contracts. LRP insurance is like buying a put option that can only be exercised on the last day. LRP is also less flexible with respect to the actual sale of the cattle. If the cattle are sold more than 30 days prior to the end date, the insurance becomes void. This presents a potential problem in years of drought when producers need to sell earlier than planned. Cattle may be sold anytime after the end date, but the indemnity is still figured on that ending date. So, the producer still runs the risk of prices dropping after the ending date but before the calves are sold.

LRP Insurance Case Study

The LRP insurance program is easier to understand by working through an example of a backgrounder who plans to graze 50 calves through the summer. In May, the backgrounder meets with his insurance agent to purchase LRP insurance. The first consideration is the type of contract. The producer is backgrouding steers and estimates they will weigh about 750 pounds at the expected sale date in mid-September. This would put these cattle in the heavier steer category as can be seen in Table 1. Notice that steers in this weight range are indexed exactly to the CME feeder cattle cash index (no price adjustment factor).

Next, the producer must choose an ending date for the contract that is near the expected sale date of the cattle. Based on the available dates, he chooses September 11, (see the appendix for the full details of these options) as this is closest to the anticipated mid-September sale. Remember the backgrounder can sell up to thirty days before September 11, or any time after, but the potential indemnity will be determined based on September 11th prices.

Finally, the producer needs to choose the coverage level. This will generally be a more difficult decision because there are multiple options. Table 2 shows the five coverage levels available as of 5/15/08 for this particular contract. The expected CME Feeder Cattle Cash Index on September 11th was $114.23 per cwt (as of 5/15/08). The five different coverage options provide for coverage prices from $99.68-$109.68 per cwt. The index only has to fall by $4.55 per cwt for the highest coverage price to pay an indemnity where it must fall by $14.55 per cwt before the lowest coverage price would pay out. Notice however, that higher coverage levels cost significantly more than lower coverage levels. The cost of the highest coverage would be $21.90 per head (7.5 cwt x $2.92) while the cost of the lowest coverage would be only $6.83 (7.5 cwt x $.91) per head. Thus the producer needs to balance the increased risk protection with the increased cost of the policy.

Table 2 - Expected Ending CME Feeder Cattle Cash Index $114.23
Heavy Steer Category 9/11/08 Expiration Date

Coverage Price (per cwt)	Coverage Level	Insurance Rate Without Subsidy (per cwt)	Final Rate With Subsidy[a] (per cwt)
$109.68	96.0%	$3.36	$2.92
$105.68	92.5%	$2.11	$1.83
$103.68	***90.8%***	***$1.62***	***$1.41***
$101.68	89.0%	$1.30	$1.13
$99.68	87.3%	$1.05	$0.91

Note[a]: USDA subsidizes 13% of premium. Both rates are shown here because the USDA does not show the subsidized rate on their website. Users can simply multiply the non-subsidized rate by .87 to calculate the subsidized rate.

Choosing a higher coverage level is analogous to being heavily insured. The premiums are expensive, but the producer is minimizing risk. Lower coverage levels are like choosing a low-cost, high-deductible insurance policy. When considering which coverage level to purchase, the producer should work through a budget and reconcile this with their individual financial situation. For example, producers may choose to cover the breakeven price of their calves, or they may choose to purchase a coverage level that will ensure that they can make their loan payments. For the rest of this example, we will assume that the producer chooses the middle coverage level of $103.68 per cwt (italicized in Table 2). This would mean that the index would have to fall by $10.55 before a payment was made.

If the producer chose to cover each of the 50 steers, this would amount to 37,500 lbs of feeder cattle (750 lbs x 50 head). With a premium cost of $1.41 per cwt., this would amount to $528.75 or $10.58 per head. Once the insurance is purchased, the producer no longer needs to worry about the market falling below the insured level. Nothing can be done at this point to affect the indemnity that may or may not be received on the ending date.

In September, the producer sells the cattle at the local auction barn or through an order buyer as he normally would. As stated earlier, the value of the index on the ending date of September 11th will determine if an indemnity is due. If the index value (on the end date) is below the coverage price, the producer will receive the difference as an indemnity payment. For example, if the actual ending value was $100 per cwt, the producer would receive an indemnity payment of $3.68 per cwt. ($103.68 - $100 = $3.68) or $27.60 per head (7.5 cwt x $3.68). This indemnity payment would be received in addition to the actual sale of the cattle.

Was the insurance worth the cost? In this case the insurance premium cost $10.58 per head and the indemnity paid out $27.60 per head, so clearly it was. Obviously, this will not always be the case. LRP is an insurance product that will only pay an indemnity occasionally. In reality, the best case scenario is for the producer to receive no indemnity payment because this means that prices have remained strong. When an indemnity is received, the producer receives the insured floor price. However, this price is higher than what would have been received without the insurance. Table 3 illustrates the many possible outcomes of the CME Feeder Cattle Cash Index and how these impact the net price received for the cattle. Notice here that the CME Feeder Cattle Cash Index is the same as "Net Price Without Insurance". This is because at this point we are assuming no price basis.

Table 3 - Comparison of Net Price with and without Insurance
(No Price Basis)
Heavy Steer Category 9/11/08 Expiration Date

CME Feeder Cattle Cash Index at Expiration	Net Price Without Insurance	Net Price With Insurance
$90.00	$90.00	$102.27
$95.00	$95.00	$102.27
$100.00	$100.00	$102.27
$103.68	***$103.68***	***$102.27***
$110.00	$110.00	$108.59
$115.00	$115.00	$113.59
$120.00	$120.00	$118.59
$125.00	$125.00	$123.59

Note: Net Price = Sale price + Indemnity Payment - Insurance Premium

Notice that if the ending Feeder Cattle Cash Index is at or below the coverage price of $103.68, the net price reaches its floor ($102.27) and does not get any lower with the insurance. This is what is meant by downside price protection. The other attractive piece of LRP is that there is unlimited upside potential. Notice that net price continues to increase as the index increases above the coverage price. Unlike forward contracts, producers who purchase LRP insurance do not run the risk of "locking in" a lower price. They lose the premium payment, but keep the rest of the upside potential.

However, it is worth mentioning again that the CME feeder cattle cash index is not necessarily representative of Kentucky feeder cattle prices. Due to shipping costs and other factors, Kentucky feeder cattle prices are generally below the CME feeder cattle index. So, Kentucky producers need to understand that when considering potential coverage prices, those prices apply to the index, not to Kentucky prices. The difference in Kentucky prices and the index is called LRP basis and is similar to futures basis that many producers are familiar with.

LRP basis is simply the difference between the CME Feeder Cattle Cash Index and the local price at which the cattle are sold. For example, an LRP basis of ($4.00) would mean that the local price was $4 per cwt below the index.

Table 4 is identical to Table 3 but with the assumption of a ($4.00) local basis. Notice here that the "Net Price Without Insurance" is $4 less than the CME Feeder Cattle Cash Index, and that the "Net Price Without Insurance" and "Net Price With Insurance" are both $4 less than their respective values in Table 3. Thus all basis does, relative to the feeder index, is push back all of the net prices by the amount of the basis. Basis has no impact on the indemnity payment.

Table 4 - Comparison of Net Price with and without Insurance
($4.00) Basis
Heavy Steer Category 9/11/08 Expiration Date

CME Feeder Cattle Cash Index at Expiration	Net Price Without Insurance and ($4) Basis	Net Price With Insurance ($4) Basis
$90.00	$86.00	$98.27
$95.00	$91.00	$98.27
$100.00	$96.00	$98.27
$103.68	***$99.68***	***$98.27***
$110.00	$106.00	$104.59
$115.00	$111.00	$109.59
$120.00	$116.00	$114.59
$125.00	$121.00	$119.59

Note: Net Price = Sale price + Indemnity Payment - Insurance Premium

The previous case example considered a small-scale backgrounder who was marketing 750 lb. feeder steers. LRP insurance fits a system like this quite well, but also can be used by cow-calf operators who sell calves at weaning. The cow-calf operator would simply need to insure the appropriate number of lbs that he wanted to protect based on his expected weaning weights. Because LRP is available for cattle under and over 600 lbs, it is an option available to most all producers in Kentucky.

Livestock Risk Protection Insurance offers livestock producers the opportunity to manage a portion of their price risk. This is very attractive in today's environment where grain and input prices, international trade, and the US economy have added to the volatility and uncertainty in feeder cattle prices. If you have additional questions about LRP insurance, contact your county extension agent for agriculture or an insurance agent in your area.

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Acknowlegements

Special thanks to Darrell R. Mark and Josie Waterbury (extension specialist and graduate research assistant at the University of Nebraska – Lincoln) and to Lee Meyer (extension specialist at the University of Kentucky) for their thorough review of this publication.

Websites and Other Links:

Livestock Risk Protection (LRP) Website (provides quotes for CME Feeder Cattle Index):
http://www3.rma.usda.gov/apps/livestock_reports/main.aspx

Livestock Price Insurance Providers for Kentucky 2008:
http://www3.rma.usda.gov/tools/agents/companies/2008/kentuckyLPI.cfm

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LRP Coverage Prices, Rates, and Actual Ending Values - Report for 05/15/2008

USDA subsidizes 13 percent of total LRP premium

*** See notes at bottom of page**

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
21 KENTUCKY	998 ALL COUNTIES	13	0801 FEEDER CATTLE	810 STEERS WEIGHT 2	997 NO PRACTICE SPECIFIED	2008	113.181	$111.910	0.988800	0.034590	3.871	08/14/2008	112.970
21 KENTUCKY	998 ALL COUNTIES	13	0801 FEEDER CATTLE	810 STEERS WEIGHT 2	997 NO PRACTICE SPECIFIED	2008	113.181	$109.910	0.971100	0.026085	2.867	08/14/2008	112.970
21 KENTUCKY	998 ALL COUNTIES	13	0801 FEEDER CATTLE	810 STEERS WEIGHT 2	997 NO PRACTICE SPECIFIED	2008	113.181	$107.910	0.953400	0.020202	2.180	08/14/2008	112.970
21 KENTUCKY	998 ALL COUNTIES	13	0801 FEEDER CATTLE	810 STEERS WEIGHT 2	997 NO PRACTICE SPECIFIED	2008	113.181	$105.910	0.935800	0.015315	1.622	08/14/2008	112.970
21 KENTUCKY	998 ALL COUNTIES	13	0801 FEEDER CATTLE	810 STEERS WEIGHT 2	997 NO PRACTICE SPECIFIED	2008	113.181	$103.910	0.918100	0.010894	1.132	08/14/2008	112.970
21 KENTUCKY	998 ALL COUNTIES	13	0801 FEEDER CATTLE	810 STEERS WEIGHT 2	997 NO PRACTICE SPECIFIED	2008	113.181	$97.910	0.865100	0.005577	0.546	08/14/2008	112.970
21 KENTUCKY	998 ALL COUNTIES	13	0801 FEEDER CATTLE	810 STEERS WEIGHT 2	997 NO PRACTICE SPECIFIED	2008	113.181	$95.910	0.847400	0.004379	0.420	08/14/2008	112.970
21 KENTUCKY	998 ALL COUNTIES	17	0801 FEEDER CATTLE	810 STEERS WEIGHT 2	997 NO PRACTICE SPECIFIED	2008	114.231	$109.680	0.960200	0.030607	3.357	09/11/2008	
21 KENTUCKY	998 ALL COUNTIES	17	0801 FEEDER CATTLE	810 STEERS WEIGHT 2	997 NO PRACTICE SPECIFIED	2008	114.231	$105.680	0.925100	0.019956	2.109	09/11/2008	
21 KENTUCKY	998 ALL COUNTIES	17	0801 FEEDER CATTLE	810 STEERS WEIGHT 2	997 NO PRACTICE SPECIFIED	2008	114.231	$103.680	0.907600	0.015615	1.619	09/11/2008	
21 KENTUCKY	998 ALL COUNTIES	17	0801 FEEDER CATTLE	810 STEERS WEIGHT 2	997 NO PRACTICE SPECIFIED	2008	114.231	$101.680	0.890100	0.012795	1.301	09/11/2008	
21 KENTUCKY	998 ALL COUNTIES	17	0801 FEEDER CATTLE	810 STEERS WEIGHT 2	997 NO PRACTICE SPECIFIED	2008	114.231	$99.680	0.872600	0.010484	1.045	09/11/2008	
21 KENTUCKY	998 ALL COUNTIES	21	0801 FEEDER CATTLE	810 STEERS WEIGHT 2	997 NO PRACTICE SPECIFIED	2008	115.126	$107.680	0.935300	0.029300	3.155	10/09/2008	
21 KENTUCKY	998 ALL COUNTIES	21	0801 FEEDER CATTLE	810 STEERS WEIGHT 2	997 NO PRACTICE SPECIFIED	2008	115.126	$105.680	0.918000	0.024603	2.600	10/09/2008	
21 KENTUCKY	998 ALL COUNTIES	21	0801 FEEDER CATTLE	810 STEERS WEIGHT 2	997 NO PRACTICE SPECIFIED	2008	115.126	$101.680	0.883200	0.016306	1.658	10/09/2008	
21 KENTUCKY	998 ALL COUNTIES	26	0801 FEEDER CATTLE	810 STEERS WEIGHT 2	997 NO PRACTICE SPECIFIED	2008	115.272	$110.020	0.954400	0.041047	4.516	11/13/2008	

Notes:

- Some endorsement lengths may not be available due to insufficient pricing or rating information.
- For LRP Fed Cattle, Feeder Cattle and Swine, sales open from the time sales data is available (approximately 3:30 P.M. central time) until 9 A.M. central time the next day.
- For Lamb, sales available MONDAY ONLY. Sales open from the time of official release of coverage prices and rates on Monday morning (approximately 10 A.M. central time) until 7 P.M. central time Monday.
- For Lamb, preliminary coverage prices and rates may be available for viewing Friday evening and over the weekend but are subject to change at the official release time on Monday. Coverage prices and rates may also be available for viewing following sales during the week.
- Purchase of LRP must be made through an authorized livestock insurance agent.
- For LRP Fed Cattle, Feeder Cattle, and Swine, coverage levels and rates shown are available only on the selected effective date until 9 a.m. the following day.
- For LRP Lamb, coverage levels and rates shown are available only on the selected effective date until 7 p.m.
- For the Formatted Print option, Adobe Acrobat is required. For unformatted printing, use the File->Print option from your browser menu.
- Use landscape mode when doing unformatted printing for best results.