BRIEFING

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Livestock Risk Protection for Feeder Cattle

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Objective

Analysis

for Informed

Decision Making

Background

The Federal Crop Insurance Corporation (FCIC) offers yield and/or revenue insurance products for crops in many counties. Historically, FCIC's offerings of livestock and livestock-related product risk management products have been limited to crops produced for livestock feed and, for a short time, a dairy options pilot program.

The Risk Management Agency (RMA) first offered a price risk management product for feeder cattle in 2003. Although suspended because of the discovery of BSE in the United States, the product is now available in every county of 20 states including Montana. Other states where this product is offered include Colorado, Iowa, Kansas, Nebraska, Nevada, Oklahoma, South Dakota, Texas, Utah, Wyoming, Illinois, Indiana, Minnesota, Michigan, Missouri, North Dakota, Ohio, West Virginia, and Wisconsin. The product is referred to as the Livestock Risk Protection (LRP) insurance policy. LRP insurance is also available for fed cattle and swine in these states.

Elements of the Feeder Cattle Insurance

The purpose of LRP insurance for feeder cattle is to offset the risk of price declines below an established coverage price. The policy is applicable to feeder cattle of specific types and weights (Table 1). The

Table 1: Feeder Cattle Types and Weights Eligible for LRP Feeder Cattle Coverage

Insurable Type	**Target Weight** ****
Steers Weight 1*	less than 6.0 hundredweight
Steers Weight 2	6.0 to 9.0 hundredweight
Heifers Weight 1	less than 6.0 hundredweight
Heifers Weight 2	6.0 to 9.0 hundredweight
Brahman Weight 1 *, **	less than 6.0 hundredweight
Brahman Weight 2 ***	6.0 to 9.0 hundredweight
Dairy Weight 1 *, **	less than 6.0 hundredweight
Dairy Weight 2 ***	6.0 to 9.0 hundredweight

* These types include bulls of these target weights
**These types include steers, heifers, and bulls of these target weights
*** These types include steers and heifers of these target weights
**** These are the target weight on or near the end of the insurance period

LRP feeder cattle weights refer to target feeder cattle weights existing at the end of the insurance period.

LRP for feeder cattle is offered for 13, 17, 21, 26, 30, 34, 39, 43 and 52 week periods (*endorsement length*), but seldom has coverage for more than 30 weeks been available. A producer is expected to select an insurance period that reflects the number of weeks between the time the insurance is attached and the time the feeder cattle will be marketed or near the target weight for any given insurable type.

Procedure for Obtaining Livestock Risk Protection Coverage

To obtain LRP insurance coverage for feeder cattle, a producer must apply through a crop insurance agent. Not all crop insurance agents are authorized to sell LRP. A *Substantial Beneficial Interest Reporting Form* must be submitted with the application. This form records pertinent information on any entity that has at least a 10 percent share in the feeder cattle for which the application is submitted. This beneficial interest form facilitates the establishment of eligibility and tracks insurance limits.

Once an application for coverage is approved by a company and a policy number is assigned, a producer may activate coverage at any time by applying for a *Specific Coverage Endorsement.* This endorsement is used to initiate coverage for a specific group of feeder cattle to be marketed at or near the end date of the endorsement. Each *Specific Coverage Endorsement* is limited to 1,000 head of feeder cattle. More than one *Specific Coverage Endorsement* may be purchased each crop year. *Endorsement lengths* and *coverage prices* may differ among endorsements. However, no more than 2,000 head of feeder cattle per entity may be covered by LRP in any crop year. The crop year for LRP insurance is July 1 through June 30.

Coverage Prices and Levels

Coverage prices refer to prices that are insured by a producer. Coverage prices are calculated based on the *expected ending value* of the feeder cattle to be insured. *Expected ending values* are posted most business days on a RMA website (http.// www3.rma.usda.gov/ apps/livestock/ livestock_reports/). These prices reflect prices for feeder cattle that are expected to occur at the end of the coverage period. *Coverage levels* range from 70 to 95 percent of *expected ending values*. *Coverage prices* are known to the producer at the time a LRP contract is attached to a group of feeder cattle.

Table 2 presents an example from RMA's website as of October 24, 2005. The table presents *expected ending values* by endorsement length and *coverage levels* for "Steer Weight 2" types in Montana. Note that the expected ending values for Montana feeder cattle with a 13-week endorsement were $111.904 per hundredweight for all coverage levels. For a contract with a 13-week endorsement period and a *coverage level* of 94.72 percent, the *coverage price* was $106.00 per hundredweight.

Insured Value and LRP Premium Calculations

Insured value is calculated as:

Insured Value = Number of Head x Target Weight at End Date (in hundredweight per head) x Coverage Price x Insured Share

Total premiums are calculated as:

Total Premium = Insured Value x Rate

Producer premiums are subsidized by the Federal government. The *subsidy* is calculated as:

Subsidy = 0.13 (13 percent subsidy for all premiums) x Total Premium (rounded to nearest dollar).

The net *producer premium* is calculated as:

Producer Premium = Total Premium - Subsidy

An Example Premium

Consider a situation in which a producer has a 100 percent interest in 1,000 head of 600 pound feeder cattle on October 24, 2005. The producer plans to market the feeder cattle on or near January 23, 2006. The cattle are expected to average 800 pounds per head at that time. The producer's LRP *endorsement length* would be 13 weeks. On October 24, 2005, the *expected ending value* for contracts with a 13-week endorsement period was $111.904 per hundredweight (Table 2). If the producer had selected a *coverage level* of 94.72 percent, the producer's *coverage price* would have been $106.00 per hundredweight at a premium rate of 0.012066 (Table 2). The producer premium for this example is calculated as:

Insured Value = 1,000 head x 8.0 hundredweight/animal x $106.00 per hundredweight x 1.0 = $848,000.

Total Premium = $848,000 x 0.012066 = $10,232.

Subsidy = $10,232 x 0.13 = $1,330.

Producer Premium = $10,232 - $1,330 = $8,902.

The premium must be paid on the day the insurance is purchased for coverage to be provided.

Indemnity Calculation:

An indemnity is due if the *actual ending value* is less than the *coverage price* selected by a producer. As noted above, the *coverage price* is selected on the day the insurance policy. *Coverage prices* range from 70 to 95 percent of *expected ending values*. The *actual ending value* at the end of the endorsement is determined by the cash-settled CME Feeder Cattle Reported Index.

Table 2: Partial Replica of LRP Coverage Prices, Rates, and Actual Ending Values-Report for Montana Feeder Cattle, Steer Weight, 10/24/2005

Endorsement Length	Type	Crop Year	Expected End Value	Coverage Price	Coverage Level	Rate	Cost Per Cwt	End Date
13	Steers Weight 2	2006	111.904	$106.00	0.947200	0.012066	$1.279	1/23/2006
13	Steers Weight 2	2006	111.904	$104.00	0.929400	0.009577	$0.996	1/23/2006
13	Steers Weight 2	2006	111.904	$102.00	0.911500	0.007539	$0.769	1/23/2006
13	Steers Weight 2	2006	111.904	$100.00	0.893600	0.005450	$0.545	1/23/2006
13	Steers Weight 2	2006	111.904	$98.00	0.875800	0.004429	$0.434	1/23/2006
13	Steers Weight 2	2006	111.904	$96.00	0.857900	0.003938	$0.378	1/23/2006
13	Steers Weight 2	2006	111.904	$94.00	0.84000	0.002891	$0.322	1/23/2006
13	Steers Weight 2	2006	111.904	$92.00	0.822100	0.002356	$0.266	1/23/2006
13	Steers Weight 2	2006	111.904	$90.00	0.804300	0.001795	$0.212	1/23/2006
13	Steers Weight 2	2006	111.904	$88.00	0.786400	0.015045	$0.158	1/23/2006
17	Steers Weight 2	2006	109.420	$103.42	0.945200	0.010432	$1.556	2/20/2006
17	Steers Weight 2	2006	109.420	$101.42	0.926900	0.007634	$1.058	2/20/2006
17	Steers Weight 2	2006	109.420	$99.42	0.908600	0.006354	$0.759	2/20/2006
17	Steers Weight 2	2006	109.420	$97.42	0.890300	0.005607	$0.619	2/20/2006
17	Steers Weight 2	2006	109.420	$95.42	0.872100	0.007634	$0.535	2/20/2006
17	Steers Weight 2	2006	109.420	$93.42	0.853800	0.006354	$0.414	2/20/2006
17	Steers Weight 2	2006	109.420	$91.42	0.835500	0.005607	$0.362	2/20/2006

The CME Feeder Cattle Reported Index is a weighted average price of feeder cattle as calculated by the Chicago Mercantile Exchange for Cash-Settled Commodity Index Prices. The index is based on a sample of transactions of 700 to 849 steers from auction, direct trade, video sale, and Internet sales transactions. The sample is obtained from 12 states, including Montana, and is computed each business day. The Feeder Cattle Reported Index is available at: www.cme.com.

An indemnity payment will be made on those feeder cattle specified in a *Specific Coverage Endorsement* based on the expected ending weight of feeder cattle that was selected when the insurance was attached. In the case of death loss, a producer is expected to notify the insurance company within 72 hours. If notice of death loss is not provided in a timely fashion, then coverage will be reduced accordingly. Actual feeder cattle sales weights and prices at end of the endorsement period **do not** enter into indemnity calculations. The actual ending value per hundredweight for feeder cattle is available at the end of the insurance period. The indemnity is calculated as:

Indemnity = [*Number of Head Insured x Target Weight x (Coverage Price - Actual Ending Value)*] x *Insured Share*

An Indemnity Example

Returning to the above example, suppose the CME Feeder Cattle Reported Index was $102.00 on January 23, 2006. This producer would receive an indemnity because the Feeder Cattle Reported Index value on January 23, 2006 is less than the *coverage price*. The indemnity is calculated as:

Indemnity = [1,000 head x 8 hundredweight/head x ($106.00 - 102.00)] x 1.0. = $32,000.

Note that the producer would have paid $8,902 for this insurance. Consequently, the net indemnity would be $23,098.

Off-Setting Transactions

Producers are not allowed to enter into any transactions that would convert the premium subsidy provided by FCIC into funds available for personal use. Such transactions include obtaining positions in the commodity futures or options markets that offset the risk being managed by LRP coverage. For example, producers are not allowed to enter into the following transactions for feeder cattle covered by a *Specific Coverage Endorsement*:

1. sales of CME Feeder Cattle *put options*; and

2. purchases of CME Feeder Cattle *futures contracts*.

LRP Insurance Differences and Similarities with Feeder Cattle Options

LRP insurance and CME feeder cattle options have both similarities and differences. In terms of differences, CME feeder cattle options are only available in 50,000 pound increments. For all practical purposes, CME options have no maximum limits on quantity insured. Conversely, LRP insurance may choose to insure any number of feeder cattle up to a maximum of 2,000 head in any crop year.

A producer who sells a put option or buys a futures contact incurs the full costs of those transactions. Conversely, a producer who buys LRP coverage receives a 13 percent subsidy on total premium costs. Both LRP insurance policies and CME feeder cattle put options are based upon the CME Feeder Cattle Reported Index.

Evaluating the Use of LRP by Montana Feeder Cattle Producers

This is the first year (2005) in which LRP insurance has been available to Montana livestock producers. To a large extent, the value of the product depends upon the amount of price risk that is being offset by basis risk. Feeder cattle basis refers to the difference between local feeder cattle prices and the CME Feeder Cattle Reported Index values.

Traditionally, feeder cattle basis calculations consider the difference between local feeder cattle prices and average cash settlement prices of CME Feeder Cattle Futures prices. Griffith and McNew report these calculations relative to Billings, MT cash prices. Basis values differ over time. For example, in 2002 the basis for 700 to 800 pound steers in Billings averaged -$0.69 per hundredweight. That is, the Billings cash price averaged $0.69 per hundredweight below the CME Feeder Cattle Futures. In 1997, the average basis was -$0.12 per hundredweight, whereas the 1985 average was -$5.11 per hundredweight. Monthly basis values tend to vary even more widely. In 2002, the average April basis was $3.90 while the November basis was -$4.61 per hundredweight.

Producers should consider using LRP insurance only if basis risk is less than price risk. Thus, producers considering the use of LRP insurance must understand the historical information regarding local feeder cattle cash prices and the CME Feeder Cattle Reported Index. In addition, they need to decide if historical basis relationships are good predictors of future basis relationships.

References

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