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RightRisk™

RightRisk News

Dates to Remember

Forage Insurance
- September 30th

RI-PRF Coverage
November 15th, 2019 for 2020 crop year coverage

Acreage Reporting:
- November 15th

For more information see:
http://www.rma.usda.gov
http://www.fsa.usda.gov

Evaluating Livestock Price Risk With the Risk Scenario Planning Tool

Partial budgets are a useful tool to use when contemplating a relatively simple change to your operation. Examples include adding a new crop to a crop rotation, comparing the purchase of replacement heifers to raising your own, and making minor changes to the products you are marketing. These decisions are almost always undertaken with some key input factors still subject to considerable uncertainty.

The RightRisk Education Team developed the Risk Scenario Planning (RSP) tool to provide users with an opportunity to develop partial budget analysis with one or two key variables modeled as uncertain inputs in the analysis. In this article, we provide a quick demonstration of how the RSP tool might be used to evaluate Livestock Risk Protection (LRP) insurance in a cow/calf producer's marketing plan. Several enhancements and improvements to the LRP insurance program were discussed in our June newsletter. Readers interested in learning more about the details of the LRP program may wish to consult the **June *RightRisk News*** or visit the Risk Management Agency website (**rma.usda.gov**).

Suppose a cow/calf producer who is planning to sell weaned calves in October on the cash market is considering the purchase of LRP insurance to help stabilize some of the price uncertainty between now and October. The producer consults the LRP coverage price report on the RMA website and discovers that the expected ending value for 13-week LRP coverage on heifers - weight 1 (< 600 lbs.) ending on October 17 is $139.685 per hundredweight (cwt). For steers - weight 1, the expected ending price is 110 percent of that value or $153.654. The highest level of price protection under an LRP contract offers a coverage price of 98.8 percent of these values or $137.96 and $151.76, respectively, for heifers and steers. LRP insurance comes with a premium cost. The full premium cost per cwt for these LRP contracts would be $4.744 and $5.219, respectively, for heifers and steers.

Figure 1: Expected sales revenue from 40 heifer and 60 steer calves.

Added Returns	Quantity	Value	Total
LRP Ending Feeder Cattle Value			$ -
Heifers weight 1		$ 139.69	$ -
Steers weight 1		$ 153.66	$ -
LRP Coverage Prices			$ -
Heifers weight 1		$ 137.96	$ -
Steers weight 1		$ 151.76	$ -
LRP Heifer Coverage price - ending value	0	$ (1.73)	$ -
LRP Steer Coverage price - ending value	0	$ (1.90)	$ -
Basis: Local Heifers weight 1 - LRP Ending Val		$ 3.00	$ -
Local Basis: Steers weight 1/Heifers weight 1	1.14		$ -
Heifers sold	40		$ -
Steers sold	60		$ -
Heifers weight	520		$ -
Steers weight	560		$ -
Revenue:			$ -
Sales: Heifers weight 1 (cwt.)	208	$ 142.69	$ 29,679.52
Sales: Steers weight 1 (cwt.)	336	$ 162.67	$ 54,655.98
LRP indemnity: Heifers weight 1	208	$ -	$ -
LRP indemnity: Steers weight 1	336	$ -	$ -
			$ -
Total Added Returns			$ 84,335.50

One of the most significant enhancements to LRP this year is an increase in the premium subsidy rates, as covered in last month's newsletter. The premium subsidy is now 20 percent, for coverage levels between 95-100 percent of the expected price. Thus, our example producer would be responsible for paying premiums

How Much Risk is Right for You?

of approximately $3.80 and $4.18, respectively, for heifers and steers. This information can be entered in the RSP tool to help analyze the effect of purchasing LRP insurance on a producer's price risk (Figure 1).

LRP insurance can be evaluted in isolation by generating a distribution of possible net benefits. However, as a price risk management tool, it is best analyzed in terms of what it does to the distribution of total net sales revenue. For our example, the producer expects to sell 40 head of heifers, weighing an average of 520 pounds, and 60 head of steers, weighing an average of 560 pounds (Figure 1). If prices turn out as expected, this will generate $84,335.50 in revenue or roughly $843 per head. The producer would pay $2,195 or roughly $22 per head to purchase LRP coverage on these expected sales at the highest level of price protection.

Figure 2: Creating uncertainty around the LRP ending index value.

Risk Scenarios	
Uncertain Value 1	
Description	**Cell**
LRP Ending Value: Heifers weight 1	D7
Current Value (Most Likely)	139.69
Minimum Value	133
Maximum Value	150

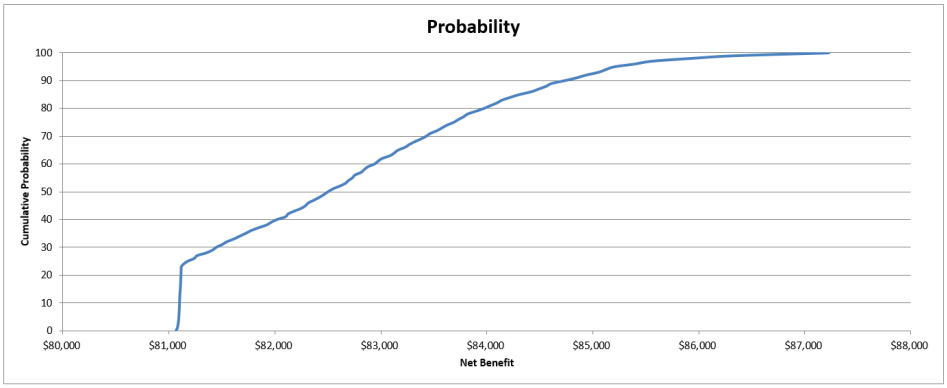
The RSP tool allows users to set one or two inputs as variable. For this example, we set our prices based on the variance in the LRP heifers - weight 1 ending index value. This ending value corresponds with the CME October feeder cattle contract price. For example, the producer expects the actual ending value to vary from $133 per cwt to $150 per cwt. These values can be entered as shown in Figure 2 to create a distribution of results (Figure 3).

LRP insurance only pays an indemnity when the ending price index falls below the coverage price. In this example, that happens about 23 percent of the time creating a floor on the sales net benefit at around $81,100. The highest sales net benefit falls around $87,200. However, there is only a 15 percent chance the sales net benefit will exceed $84,335 of expected sales revenue due to the $2,195 LRP premium cost.

If the scenario is re-run without LRP insurance, the sales net benefit ranges from $80,700 to $89,400 and exceeds the expected $84,335 in cash sale revenue 58 percent of the time. Where our example does not include much downside price risk, it would be hard to justify the purchase of LRP insurance. However, with different assumptions about price movement, the results would likely make the purchase of LPR price insurance more appealing.

For a copy of the RSP tool, to download the RSP user guide, or to view an online course outlining how to use the RSP tool, visit **RightRisk.org**.

Figure 3: The cumulative distribution of net sales revenue with LRP insurance.



RightRisk News is brought to you by the RightRisk Team

Contributing authors:
John Hewlett, Ranch/Farm Management Specialist - University of Wyoming, hewlett@uwyo.edu
Jay Parsons, Risk Management Specialist - University of Nebraska-Lincoln, jparsons4@unl.edu
Jeff Tranel, Ag and Business Management Specialist - Colorado State University, Jeffrey.Tranel@ColoState.edu
Editing and Layout: John Hewlett, hewlett@uwyo.edu

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