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LRP-Feeder Cattle Insurance Usage Up with Recent Changes

Market uncertainties pose a significant risk to cattle producers, who have a substantial amount of money invested in breeding livestock, land, and other infrastructure. Livestock Risk Protection (LRP) insurance became available in the early 2000s from the USDA Risk Management Agency to provide cattle and swine producers with a simple price risk management tool to protect against unexpected downswings in the national market price. LRP is a single-peril insurance product that provides an indemnity to insured producers if a national price index falls below a selected coverage price on the end date of the policy. LRP insurance functions like a put option in that it creates a floor on the national selling price at a future point in time while still allowing the producer to benefit from price increases.

After remaining relatively unchanged since inception, several enhancements and improvements to the LRP insurance program for cattle have taken place over the last three years. They include:

- Increasing subsidy levels for all coverage prices (see Table 1).
- Changing the premium due date to the end of the coverage period rather than the beginning.
- Increasing the number of head of cattle that can be insured per endorsement and per year from 1,000 head and 2,000 head, respectfully, to 6,000 head and 12,000 head, respectfully.
- Expanding the window before the end of the endorsement period to make cash sales without affecting coverage from 30 days to 60 days.
- Creating a new unborn feeder cattle type to allow for unborn calves to be insured.
- Updating Chicago Mercantile Exchange (CME) trading requirements to allow for more insurance coverage levels and endorsement lengths to be offered to producers.

Table 1: Livestock Risk Protection (LRP) insurance premium subsidies for cattle policies

Note: New and beginning producers qualify for an additional 10% subsidy

	Subsidy Level by Year			
Coverage Price	2003	2019	May-2020	Sep-2020 (Current)
95-100%	13%	20%	25%	35%
90-94.99%	13%	25%	30%	40%
85-89.99%	13%	30%	35%	45%
80-84.99%	13%	30%	35%	50%
75-79.99%	13%	35%	45%	55%
70-74.99%	13%	35%	45%	55%

With the recent changes, producer participation in the LRP insurance program in Nebraska has increased dramatically. LRP insurance for cattle is available in five different forms: LRP-Feeder Cattle Steers Weight 1 (< 600 pounds); LRP-Feeder Cattle Heifers Weight 1 (< 600 pounds); LRP-Feeder Cattle Steers Weight 2 (600-900 pounds); LRP-Feeder Cattle Heifers Weight 2 (600-900 pounds); and, LRP-Fed Cattle Steers & Heifers (> 900 pounds). Table 2 contains sales and indemnity data for LRP-Feeder Cattle insurance in Nebraska since it was first offered in 2003. Sales of LRP-Feeder Cattle for the 2021 crop year (July 1, 2020 through June 30, 2021) included a record-high number of policies sold, the quantity of head insured, dollars of liabilities covered, total premium dollars, and subsidy dollars. Most of the coverage ending dates are yet to be reached for 2021 policies so indemnity figures are incomplete.

Table 2: LRP-Feeder Cattle Summary of Business for Nebraska

Year	Policies Sold	Policies Earning Prem	Quantity (Head)	Liabilities ($)	Total Prem ($)	Policies Indemnified	Indemnity ($)	Loss Ratio	Subsidy ($)	Subsidy (%)	Producer Prem ($)	Producer Loss Ratio
2003	3	3	343	210614	3412	0	0	0.00	444	13%	2968	0.00
2004	32	32	5131	3529682	102361	4	2500	0.02	13308	13%	89053	0.03
2005	486	98	13295	8715966	144560	0	0	0.00	18796	13%	125764	0.00
2006	714	150	22340	16424264	204223	30	76862	0.38	26545	13%	177678	0.43
2007	908	92	11055	7670257	128529	42	194434	1.51	16718	13%	111811	1.74
2008	1062	106	12985	9944835	268290	69	413746	1.54	34887	13%	233403	1.77
2009	1203	57	7594	5377763	173634	42	457249	2.63	22574	13%	151060	3.03
2010	1029	145	15551	10989386	361387	103	265774	0.74	46976	13%	314411	0.85
2011	1279	313	34443	29203924	986235	88	149965	0.15	128216	13%	858019	0.17
2012	1376	230	27202	27122685	773296	136	980198	1.27	100527	13%	672769	1.46
2013	1386	85	10386	10806100	282484	34	247183	0.88	36718	13%	245766	1.01
2014	1310	197	25398	32211424	701899	2	252	0.00	91247	13%	610652	0.00
2015	1457	141	15456	23890729	616680	69	872264	1.41	80165	13%	536515	1.63
2016	1402	75	9885	10773447	460552	67	625482	1.36	60411	13%	400141	1.56
2017	1552	191	21735	20816435	995861	50	195421	0.20	128310	13%	867551	0.23
2018	1224	117	15802	16967064	640475	45	406191	0.63	82998	13%	557477	0.73
2019	1238	69	9095	10390904	309240	47	584929	1.89	40691	13%	268549	2.18
2020	1228	46	7325	8403175	324531	18	224896	0.69	70559	22%	253972	0.89
2021*	1609	290	62361	74014569	3114802	83	376297	0.12	1100102	35%	2014700	0.19
2022*	2154	26	2742	2926474	131579	0	0	0.00	40879	31%	90700	0.00
AVERAGE	**1049**	**119**	**14723**	**14080481**	**415425**	**47**	**316519**	**0.76**	**55561**	**13%**	**359864**	**0.88**

*2021 and 2022 are still in progress and not included in the average.

Source: https://www.rma.usda.gov/en/Information-Tools/Summary-of-Business, July 16, 2021.

Policies are sold when a producer completes an application with a livestock insurance agent. Premiums are not paid until a producer completes a Specific Coverage Endorsement (SCE) to purchase price protection for a particular group of animals. Only about 11% of all policies sold in Nebraska have actually had premiums paid and insurance coverage attached to them. From 2003-2020, 39% of policies earning a premium have been indemnified. With $5.7 million of indemnities paid out on $7.5 million in total premium collected, the loss ratio for LRP-Feeder Cattle has averaged about 0.76 over this period. With a 13% premium subsidy in effect for most of this period, the producer loss ratio was 0.88, meaning $0.88 was paid out in indemnities for each dollar of producer premium collected. Calculating the producer loss ratio for 2003-2020 using the new minimum subsidy level of 35% results in a producer loss ratio of 1.18.

Like most insurance, cattle producers should not purchase LRP hoping to collect on it. All else being equal, strong market prices are preferred and more likely to lead to solid returns on investment over time. However, LRP used as a part of a market risk management plan can help protect profits in years where markets turn for the worse as seen in 2007-2009, 2012, 2015-2016, and 2019 for feeder cattle (Table 2). To see how LRP has performed over the years, an example is provided below for LRP-Feeder Cattle Steers Weight 2 (600-900 lbs.) and Heifers Weight 1 (< 600 lbs.). Because LRP-Feeder Cattle coverage is directly tied to the Chicago Mercantile Exchange Feeder Cattle Index for 700-900 pound steers, LRP-Feeder Cattle coverage for Steers Weight 2 will match the index.

A 10% price discount is calculated for LRP-Feeder Cattle coverage values on Heifers and a 10% price premium is calculated for LRP-Feeder Cattle coverage on Weight 1. Therefore, LRP-Feeder Cattle coverage values on Steers Weight 2 and Heifers Weight 1 will look the same.

Table 3 shows how 13-week LRP-Feeder Cattle insurance contracts taken out in early August for price coverage in early November performed for Steers Weight 2 and Heifers Weight 1 from 2005-2020. In this example, only 7 of the 16 years resulted in an indemnity payment. The indemnity payments occurred over four consecutive years from 2006-2009 plus two consecutive years from 2015-2016 and, finally, in 2020.

The other 9 years resulted in the net effect of a producer premium being paid with no offsetting indemnity received, including one year (2010) where the national price declined but not enough to trigger an indemnity.

However, the indemnity to producer premium ratio was 1.51 (4.72/3.12) over the entire period of time. As a result, the average effective ending price with LRP insurance coverage ($141.00) was nearly the same as the average expected ending price ($141.223) despite an average $1.83 decline in actual ending price compared to expectations. In other words, the average net effect of LRP insurance of $1.60 was enough to cover all but $0.23 of the average decline.

Table 3: LRP-Feeder Cattle Example Performance for Steers Weight 2 (600-900 lbs.) and Heifers Weight 1 (< 600 lbs.) for a coverage endorsement period from Aug 6-8 to Nov 5-7 (13 weeks) at the highest coverage price available.

Purchase Date	Expected Ending Value (Nov 5-7)	Actual Ending Value (Nov 5-7)	Net Change in Ending Value	Coverage Price	Indemnity	Total Premium	Subsidy[1]	Producer Premium	Net LRP Effect	Effective National Price	Deviation from Expected Ending Value	Indemnity Ratio (Indemnity /Producer Premium)
8/8/2005	105.335	116.06	$10.73	98.34	0	0.804	0.105	0.70	($0.70)	115.36	$10.03	0.00
8/7/2006	115.273	103.20	($12.07)	108.32	5.12	1.037	0.135	0.90	$4.22	107.42	($7.85)	5.69
8/6/2007	117.336	108.76	($8.58)	116.01	7.25	3.182	0.414	2.77	$4.48	113.24	($4.10)	2.62
8/6/2008	118.101	96.59	($21.51)	117.40	20.81	4.669	0.607	4.06	$16.75	113.34	($4.76)	5.13
8/6/2009	101.586	93.15	($8.44)	99.71	6.56	2.806	0.365	2.44	$4.12	97.27	($4.32)	2.69
8/6/2010	113.395	111.32	($2.08)	109.90	0	2.204	0.287	1.92	($1.92)	109.40	($4.00)	0.00
8/8/2011	135.654	141.97	$6.32	131.65	0	3.484	0.453	3.03	($3.03)	138.94	$3.29	0.00
8/6/2012	141.348	144.12	$2.77	122.85	0	0.441	0.057	0.38	($0.38)	143.74	$2.39	0.00
8/6/2013	160.211	164.59	$4.38	159.54	0	3.693	0.480	3.21	($3.21)	161.38	$1.17	0.00
8/6/2014	219.081	240.36	$21.28	216.93	0	5.764	0.749	5.01	($5.01)	235.35	$16.27	0.00
8/7/2015	206.948	188.47	($18.48)	200.82	12.35	3.776	0.491	3.29	$9.06	197.53	($9.42)	3.75
8/8/2016	142.000	126.46	($15.54)	140.68	14.22	5.786	0.752	5.03	$9.19	135.65	($6.35)	2.83
8/8/2017	144.965	159.01	$14.05	140.12	0	5.279	0.686	4.59	($4.59)	154.42	$9.45	0.00
8/6/2018	152.700	153.32	$0.62	151.88	0	5.083	0.661	4.42	($4.42)	148.90	($3.80)	0.00
8/6/2019	138.671	146.26	$7.59	137.97	0	5.669	1.134	4.54	($4.54)	141.72	$3.05	0.00
8/6/2020	146.970	136.63	($10.34)	145.85	9.22	5.526	1.934	3.59	$5.63	142.26	($4.71)	2.57
Average	**141.223**	**139.39**	**($1.83)**	**137.37**	**4.72**	**3.700**	**0.582**	**3.12**	**$1.60**	**141.00**	**($0.23)**	**1.51**

[1]Subsidy from 2005-18 is 13%, 2019 is 20%, 2020 is 35%.

Source: http://www3.rma.usda.gov/apps/livestock_reports/

Furthermore, for the years where the national price declined, the average decline was $12.13. With LRP insurance coverage and indemnity payments included the deviation from the expected ending value was cut in half to an average of $5.69. This risk mitigation effect was most pronounced in years like 2008 where a $21.51 decline in national prices expectations was 75% offset by a $16.75 net positive effect from LRP insurance coverage.

LRP insurance programs focus only on reducing downside price risk by providing a floor on national price expectations. LRP insurance allows producers to take advantage of higher national prices outcomes if they are realized. The insurance program does not cover basis risk (the risk that local prices decline relative to national prices) and producers are still charged with the task of marketing their cattle in the cash market. This includes the possibility of adding value to the cattle through a retention program.

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