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Livestock Gross Margin Insurance for Swine

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Market Report	Yr Ago	4 Wks Ago	7/13/07
Livestock and Products, Weekly Average			
Nebraska Slaughter Steers, 35-65% Choice, Live Weight	$81.81	$89.00	$89.62
Nebraska Feeder Steers, Med. & Large Frame, 550-600 lb	139.86	119.75	134.69
Nebraska Feeder Steers, Med. & Large Frame 750-800 lb	119.84	105.10	119.01
Choice Boxed Beef, 600-750 lb. Carcass	149.59	147.63	142.42
Western Corn Belt Base Hog Price Carcass, Negotiated	66.89	72.58	65.91
Feeder Pigs, National Direct 50 lbs, FOB	51.31	53.35	51.12
Pork Carcass Cutout, 185 lb. Carcass, 51-52% Lean	76.46	76.36	72.89
Slaughter Lambs, Ch. & Pr., Heavy, Wooled, South Dakota, Direct	100.75	101.50	103.12
National Carcass Lamb Cutout, FOB	225.97	256.32	256.58
Crops, Daily Spot Prices			
Wheat, No. 1, H.W. Imperial, bu	4.55	5.51	5.39
Corn, No. 2, Yellow Omaha, bu	2.30	4.17	3.41
Soybeans, No. 1, Yellow Omaha, bu	5.63	7.84	8.33
Grain Sorghum, No. 2, Yellow Columbus, cwt	3.59	6.95	5.63
Oats, No. 2, Heavy Minneapolis, MN , bu	2.31	3.01	2.83
Hay			
Alfalfa, Large Square Bales, Good to Premium, RFV 160-185 Northeast Nebraska, ton	135.00	136.00	135.00
Alfalfa, Large Rounds, Good Platte Valley, ton	87.50	92.50	92.50
Grass Hay, Large Rounds, Good Northeast Nebraska, ton	82.50	*	*

* No market.

Livestock Gross Margin (LGM) Insurance for Swine is an insurance policy first offered in 2002 in Iowa through the United States Department of Agriculture's Risk Management Agency (RMA). The program was expanded to include several more states for the 2008 crop year which begins July 30, 2007. Prior to the release of LGM, Livestock Risk Protection (LRP) Insurance was also offered to producers as a livestock insurance product (see NebGuide G1723). Unlike LRP which offers single-peril price risk protection for the future selling price of the insured swine, LGM for Swine provides protection against declines in the hog finishing margin. LGM Insurance for Swine creates margin protection by simultaneously hedging the input costs of corn and soybean meal and the market hog selling price as a bundled option. Essentially, LGM for Swine provides insured producers an indemnity when the spread between the market hog selling price and corn and soybean meal input prices narrows due to changing market conditions. As this margin narrows, the insurance indemnity payment becomes larger, to offset lower revenues or increased costs.

LGM for Swine has a six-month insurance coverage period, allowing producers to establish target marketings (number of slaughter-ready hogs that are expected to be marketed during the insurance period and that the producer wants to insure with LGM) in any of the six-months except the first month. Indemnity payments are based on a gross margin guarantee (GMG) and a total actual gross margin (AGM). The GMG is the total swine feeding margin expected for the six-months of target marketings that producers insure when they purchase the policy. The total AGM is the swine feeding margin that actually occurs in the market once the six-month coverage period ends. At the end of the six-month insurance period, an indemnity is paid to the producer if the total AGM exceeds the GMG. The GMG and total AGM are based on adjusted futures prices and state and month specific basis levels.

LGM is unique from traditional options and futures and offers several advantages. By allowing producers to sign up 12 times per year and insure all of the swine they expect to market

over a rolling six-month period (up to program limits), insured individuals do not need to decide on the mix of options to purchase, the strike price of the options, or the date of entry into the various option contracts. In addition to being convenient, LGM also offers customization. This policy can be tailored to fit the needs of any size operation (within policy limitations). Because there is no minimum number of head to insure with LGM, producers with smaller-sized operations can obtain beneficial margin protection through the use of LGM.

LGM for Swine is currently available in 20 states (Colorado, Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Montana, Nebraska, Nevada, North Dakota, Ohio, Oklahoma, South Dakota, Texas, Utah, West Virginia, Wisconsin and Wyoming) for farrow-to-finish operations, feeder pig finishing operations and segregated early weaned (SEW) pig finishing operations. In order to be eligible for this policy, the insured swine must be located in one of these 20 states. The owner of the swine must have at least ten percent interest in the insured swine in order to have substantial beneficial interest and insure with LGM.

LGM for Swine is sold on the second-to-last business day of every month. The sales period commences once RMA validates the futures price data that is used to calculate the GMG. This verification of data occurs after the futures market closes on the last day of the price discovery period, which is simply the last three days prior to the last business day of the month in the corresponding commodity months (lean hogs, corn and soybean meal) that are used to calculate gross margins for each of the target marketing months. The LGM for Swine sales period ends at 9:00 am CST on the next business day. At the time of policy purchase, producers can elect to not insure a portion of the expected gross margin by selecting a deductible. Deductible amounts range from \$0 to \$20 per head in \$2 per head increments. Producers are not required to insure all swine they plan to sell, and can therefore insure any amount of swine they own up to a program limit of 15,000 head for any six-month insurance period and a limit of 30,000 head per crop year (July 1 to June 30).

At the time of coverage purchase, an expected gross margin (EGM) is calculated per head for each target marketing month. Note that a yield factor of 0.74 is included in the EGM calculations to convert the CME lean hog futures price to a live hog equivalent price. The EGM per head for month *t* is calculated using one of the following equations:

Farrow to Finish

$EGM_t = [2.5\ (cwt) \times \text{Swine Price}_t (\$/cwt) \times 0.74] - [(196.16\ (lbs) / 2000\ (lbs/ton)) \times \text{Soybean Meal Price}_{t-3} (\$/ton)] - [13.86\ (bu) \times \text{Corn Price}_{t-3} (\$/bu)]$

Feeder Pig Finishing

$EGM_t = [2.5\ (cwt) \times \text{Swine Price}_t (\$/cwt) \times 0.74] - [(132\ (lbs) / 2000\ (lbs/ton)) \times \text{Soybean Meal Price}_{t-2} (\$/ton)] - [9.6\ (bu) \times \text{Corn Price}_{t-2} (\$/bu)]$

SEW Pig Finishing

$EGM_t = [2.5\ (cwt) \times \text{Swine Price}_t (\$/cwt) \times 0.74] - [(142\ (lbs) / 2000\ (lbs/ton)) \times \text{Soybean Meal Price}_{t-2} (\$/ton)] - [9.7\ (bu) \times \text{Corn Price}_{t-2} (\$/bu)]$

Once EGMs are calculated for each of the six target marketing months, all applicable EGMs are then multiplied by their respective target marketings (number of head insured). These monthly totals are then added to create the total EGM. A GMG is then calculated by subtracting the total deductible (per head deductible times the number of swine to be marketed) from the total EGM. At the end of the six-month insurance period, a total actual gross margin (AGM) is calculated. The AGM per head is based on the three respective adjusted futures prices (lean hogs, corn and soybean meal) when the swine are scheduled to be marketed (the target marketing month) according to the same equation used to calculate the EGM. Once the total AGM has been calculated based on final realized futures prices after the finishing period, an indemnity equal to the difference between the total AGM and GMG is paid if the GMG exceeds the total AGM. Indemnities are not paid until the end of the six-month insurance period.

Even though finishing margin risk is reduced with this coverage, it is not completely eliminated, nor are other risks associated with finishing swine. This policy does not protect against death loss or other losses or damage to the hogs. Basis may also pose a risk. It is important to understand that the prices used to calculate the expected and actual gross margins consist of an average futures price and a fixed basis (with the exception of soybean meal), not the producers' actual basis. So, these prices are not the same as the cash prices producers will experience in their own local hog, corn and soybean meal markets. Even though each policy uses a state and month specific basis (with the exception of soybean meal), LGM basis is the difference between the adjusted futures price (including the policy's fixed basis) and the local cash selling price producers actually receive (using local basis).

LGM for Swine offers a unique way for swine finishers to simultaneously manage the three largest price risks they face: changes in market hog selling price and corn and soybean meal purchase prices. As a result, the LGM for Swine policy is somewhat more complex than previous livestock insurance policies (e.g., Livestock Risk Protection Insurance). Later this fall, University of Nebraska-Lincoln Extension will launch a new and improved livestock insurance website (www.livestockinsurance.unl.edu) providing detailed information on both LGM for Swine and LGM for Cattle as well as Livestock Risk Protection Insurance. In addition, an LGM for Swine NebGuide (G1744) will be released in the coming weeks.

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