Revenue Insurance for Hog Producers

After many months of review, the Risk Management Agency (RMA) has approved two new revenue insurance plans for hog producers. The new products are:

- **Livestock Gross Margin (LGM)**
- **Livestock Risk Protection (LRP)**

Livestock Gross Margin

The revenue that will be insured under LGM is actually the return over feed costs. The guarantee is based on projections for three risky variables: the price of market hogs, the price of corn, and the price of soybean meal. These are the most important determinants of gross margin that are beyond the producer's control. LGM does not provide any guarantee against production risks, such as disease or infertility.

There are several steps involved in determining the guarantee and possible indemnity payments.

1. Classify the operation as either farrow-to-finish or finishing only. This affects the formulas used to estimate feed consumption per pig marketed.
2. Project the number of market hogs that will be sold each month for the six-month coverage period. This is used to calculate the total dollar guarantee and the premium. If the producer estimates too high or too low, it simply means that the actual production is over or under insured. The upper limit is 15,000 head of hogs marketed in each half of the year. Insurance can be purchased for the expected sales in either of two periods, February through July or August through January.
3. Check prices for lean hogs, corn and soybean meal contracts from the Chicago Mercantile Exchange or Board of Trade during the last three trading days before January 15 or July 15. Different prices are used for each month. Most months use the price of the lean hog futures contract that expires in that month. For non-contract months, the average prices of the contracts for the month before and month after are used. For corn and soybean meal, prices from contracts expiring two or three months before the end of the period are used, to reflect the middle of the feeding period.
4. Project the gross margin per pig for each month, by subtracting the projected cost of corn and soybean meal from the projected sales revenue. The assumed marketing weight is 260 pounds, and a factor of .74 is used to convert the lean hog price to a liveweight price. The price of corn is multiplied by a standard quantity of 12.95 bushels per pig, and the price of soybean meal is multiplied by a standard quantity of 184.89 pounds per pig for a farrow to finish enterprise. For finishing enterprises, 10.41 bushels of corn and 149.46 pounds of soybean meal are used.
5. Multiply the projected gross margin per pig in each month by the number of pigs to be marketed in that month, to project a total gross margin value for the six-month period.
6. Choose to insure from 80 percent up to 100 percent of that amount. Naturally, a higher level of coverage will require a higher premium. The premium also will depend on how soon the hogs will be marketed. If more production will be sold early in the six-month period, the premium will be lower. This is because the risk of both hog and feed prices changing is less for the closer months.

Example of Livestock Gross Margin Insurance

1. Operation is farrow-to-finish.
2. Projected sales are 100 head per month for August through January.
3. Average futures prices from July 12-14 are:

Month	Lean Hogs, cwt.	Corn, bu.	Meal, ton	Projected gross margin/hd.
May		$2.05	$165.00	
June		2.08	166.50	
July		2.11	168.00	
Aug.	47.40	2.15	168.00	$49.40
Sept.	43.01	2.18	168.00	40.42
Oct.	38.62	2.21	168.00	31.45
Nov.	37.60	2.24	161.50	29.02
Dec.	36.57	2.27	155.00	26.60
Jan.	38.29			29.51
Feb.	40.00			

4. Selling 100 head each month, the total projected gross margin for the 6-month period is $20,640.
5. If the producer chooses 95 percent coverage (5 percent deductible), the guarantee is .95 x $20,640, or $19,608.
6. In February the actual gross margin is calculated, using the actual closing futures contract prices, to determine if there is a loss and a payment. The projected number of hogs sold is used, regardless of the actual number marketed.

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Actual Revenue

When the six-month marketing period is over, the actual revenue will be calculated in the same manner as the guarantee. The only difference is that actual prices will be used; that is, the prices for the same contracts used to set the guarantee averaged over the last three days they are traded. If the actual gross margin turns out to be less than the guaranteed value, the producer will receive a payment for the difference

Livestock Risk Protection

LRP protects against unexpected declines in hog prices, only. Coverage levels based on the expected cash lean hog price as reflected by the Chicago Mercantile Exchange (CME) lean hog contracts, which are settled against the USDA-AMS (American Marketing Service) lean hog prices. Five guarantee levels are offered, in increments of $2 per cwt. Coverage can be fixed for 90, 120, 150 or 180 days into the future.

If the average of the AMS cash index price on the last two trading days of the coverage period is below the guaranteed level, the producer receives a payment for the difference on the actual quantity insured. The quantity insured is equal to the projected carcass weight times the number of head insured, times the percent ownership interest. Daily premiums are available electronically at www.aa-bic.com.

Once a Livestock Risk Protection policy is established, specific lots of hogs can be insured for specific periods. The maximum number is 10,000 head in each group and 32,000 head per year per policy. The insurance company or USDA may verify ownership of the hogs that are insured. Hogs can be sold any time within 30 days of the end of the insured period.

Example of Livestock Revenue Protection

Coverage Price	Ending Price	Payment
$36.00	$31.50	$4.50
$34.00	$31.50	$2.50
$32.00	$31.50	$ .50
$30.00	$31.50	$ .00
$28.00	$31.50	$ .00

Payment (example):	$2.50 per lean cwt.
Expected market weight	x 1.85 lean cwt.
Number of head insured	x 100 head
Ownership interest	x 100%
Indemnity payment	= $462.50

Who can benefit from revenue insurance?

Producers who depend on the daily cash market price or a formula based on it to sell their hogs can insure a minimum revenue stream. Unlike some marketing contracts, neither LGM nor LRP ties the producer to a specific packer.

Smaller producers who do not have enough volume to practically utilize futures contracts or options can accomplish similar risk protection with LGM or LRP. Policies can be tailored to any scale of production. Larger scale producers can buy put options on lean hog contracts and call options on corn and soybean meal contracts, but there are minimum contracts sizes to deal with, and a limited set of contract months. LRP and LGM offer a more straightforward transaction than managing multiple futures contracts, and do not require margin money deposits. Approximately 13 percent of the premiums are paid by the Federal Crop Insurance Corporation.

Producers who purchase all or most of their feed will achieve the most risk reduction with LGM. Farmers who produce their own corn and soybeans have less feed cost risk (prices for soybean meal and soybeans are closely correlated), but can still benefit from reducing risk from declining hog prices through either plan.

Livestock revenue insurance policies will not create profits in the market on their own, since coverage levels are tied to current futures contract prices. However, they will protect against the possibility that actual cash prices may turn out to be even lower than expected. They provide a safety net against a drastic decline in prices such as could happen when processing capacity is insufficient for the supply of hogs going to market. They can also be used when market price prospects are relatively good, to protect profits from unexpected downturns in price.

Producers can estimate the level of revenue insurance coverage needed by dividing their estimated value of cash reserves or borrowing capacity available to cover losses and dividing by the number of hogs to be marketed. This is the amount of “self-insurance” or deductible available. Subtracting this from the break even cost of production leaves the amount of price or revenue that needs to be guaranteed through an insurance product.

For more information contact:

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