

**LIVESTOCK GROSS MARGIN (LGM)
LIABILITY/PREMIUM CALCULATIONS**
Edit Description

**Livestock Gross Margin (LGM)
(Insurance Plan Code 82)**

GROSS MARGIN GUARANTEE

$$\begin{aligned}
 \text{EXPECTED GROSS MARGIN} &= (\text{TARGET_MARKET_2} * \text{EXP_GROSS_MARGIN_2}) + \\
 &\quad (\text{Internal}) \qquad \qquad \qquad (\text{field 7}) \qquad \qquad \qquad (\text{field 17}) \\
 & \\
 & (\text{TARGET_MARKET_3} * \text{EXP_GROSS_MARGIN_3}) + (\text{TARGET_MARKET_4} * \\
 & \quad (\text{field 8}) \qquad \qquad \qquad (\text{field 18}) \qquad \qquad \qquad (\text{field 9}) \\
 & \\
 & \text{EXP_GROSS_MARGIN_4}) + (\text{TARGET_MARKET_5} * \text{EXP_GROSS_MARGIN_5}) + \\
 & \quad (\text{field 19}) \qquad \qquad \qquad (\text{field 10}) \qquad \qquad \qquad (\text{field 20}) \\
 & \\
 & (\text{TARGET_MARKET_6} * \text{EXP_GROSS_MARGIN_6}) + (\text{TARGET_MARKET_7} * \\
 & \quad (\text{field 11}) \qquad \qquad \qquad (\text{field 21}) \qquad \qquad \qquad (\text{field 12}) \\
 & \\
 & \text{EXP_GROSS_MARGIN_7}) + (\text{TARGET_MARKET_8} * \text{EXP_GROSS_MARGIN_8}) + \\
 & \quad (\text{field 22}) \qquad \qquad \qquad (\text{field 13}) \qquad \qquad \qquad (\text{field 23}) \\
 & \\
 & (\text{TARGET_MARKET_9} * \text{EXP_GROSS_MARGIN_9}) + (\text{TARGET_MARKET_10} * \\
 & \quad (\text{field 14}) \qquad \qquad \qquad (\text{field 24}) \qquad \qquad \qquad (\text{field 15}) \\
 & \\
 & \text{EXP_GROSS_MARGIN_10}) + (\text{TARGET_MARKET_11} * \text{EXP_GROSS_MARGIN_11}) \\
 & \quad (\text{field 25}) \qquad \qquad \qquad (\text{field 16}) \qquad \qquad \qquad (\text{field 26})
 \end{aligned}$$

FOR SWINE:

$$\text{GROSS_MARGIN_GUAR} = \text{EXPECTED GROSS MARGIN} * \text{COVERAGE LEVEL} \\
 (\text{field 28}) \qquad \qquad \qquad (\text{Internal}) \qquad \qquad \qquad (\text{Internal})$$

FOR CATTLE:

$$\text{GROSS_MARGIN_GUAR} = \text{EXPECTED GROSS MARGIN} - (\text{DEDUCTIBLE} * \\
 (\text{field 28}) \qquad \qquad \qquad (\text{Internal}) \qquad \qquad \qquad (\text{field 27})$$

TOTAL TARGET MARKETINGS)
(Internal)

LIABILITY

$$\text{LIABILITY} = \text{GROSS_MARGIN_GUAR} \\
 (\text{field 29}) \qquad \qquad (\text{field 28})$$

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SIMULATED LOSSES

SIMULATED GROSS MARGINS(i) =
(Internal)

(SECOND MONTH GROSS MARGIN DRAW(i) * TARGET_MARKET_2) +
(Internal) (field 7)

(THIRD MONTH GROSS MARGIN DRAW(i) * TARGET_MARKET_3) +
(Internal) (field 8)

(FOURTH MONTH GROSS MARGIN DRAW(i) * TARGET_MARKET_4) +
(Internal) (field 9)

(FIFTH MONTH GROSS MARGIN DRAW(i) * TARGET_MARKET_5) +
(Internal) (field 10)

(SIXTH MONTH GROSS MARGIN DRAW(i) * TARGET_MARKET_6) +
(Internal) (field 11)

(SEVENTH MONTH GROSS MARGIN DRAW(i) * TARGET_MARKET_7) +
(Internal) (field 12)

(EIGHTH MONTH GROSS MARGIN DRAW(i) * TARGET_MARKET_8) +
(Internal) (field 13)

(NINTH MONTH GROSS MARGIN DRAW(i) * TARGET_MARKET_9) +
(Internal) (field 14)

(TENTH MONTH GROSS MARGIN DRAW(i) * TARGET_MARKET_10) +
(Internal) (field 15)

(ELEVENTH MONTH GROSS MARGIN DRAW(i) * TARGET_MARKET_11)
(Internal) (field 16)

Note: (i) = 1,2,...., 5000

SIMULATED_LOSSES = \sum (MAX (GROSS_MARGIN_GUAR - SIMULATED GROSS MARGINS(i), 0))
(field 30) (field 28) (Internal)

**Note: For Swine, only use simulated gross margins greater than zero in calculation.
For Cattle, negative simulated gross margins will be included.**

TOTAL PREMIUM

TOTAL_PREMIUM = 1.03 * (1/5,000) * SIMULATED_LOSSES
(field 31) (field 30)

PRODUCER PREMIUM

PRODUCER_PREMIUM = TOTAL_PREMIUM
(field 37) (field 31)

Note: Subsidy not applicable for LGM.

**LIVESTOCK GROSS MARGIN (LGM)
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Tag	No.	Picture	Rounding	Description
<TARGET_MARKET_2>	7	9(05)	whole number	Number of swine or cattle the insured expects to market in the second month of the insurance period.
<EXP_GROSS_MARGIN_2>	17	(+ / -) 9999.9999	per ADM	Expected Gross Margin per swine or cattle for Second Month from ADM L Suffix P. Only the negative symbol (-) will appear if applicable.
<TARGET_MARKET_3>	8	9(05)	whole number	Number of swine or cattle the insured expects to market in the third month of the insurance period.
<EXP_GROSS_MARGIN_3>	18	(+ / -) 9999.9999	per ADM	Expected Gross Margin per swine or cattle for Third Month from ADM L Suffix P. Only the negative symbol (-) will appear if applicable.
<TARGET_MARKET_4>	9	9(05)	whole number	Number of swine or cattle the insured expects to market in the fourth month of the insurance period.
<EXP_GROSS_MARGIN_4>	19	(+ / -) 9999.9999	per ADM	Expected Gross Margin per swine or cattle for Fourth Month from ADM L Suffix P. Only the negative symbol (-) will appear if applicable.
<TARGET_MARKET_5>	10	9(05)	whole number	Number of swine or cattle the insured expects to market in the fifth month of the insurance period.
<EXP_GROSS_MARGIN_5>	20	(+ / -) 9999.9999	per ADM	Expected Gross Margin per swine or cattle for Fifth Month from ADM L Suffix P. Only the negative symbol (-) will appear if applicable.
<TARGET_MARKET_6>	11	9(05)	whole number	Number of swine or cattle the insured expects to market in the sixth month of the insurance period.
<EXP_GROSS_MARGIN_6>	21	(+ / -) 9999.9999	per ADM	Expected Gross Margin per swine or cattle for Sixth Month from ADM L Suffix P. Only the negative symbol (-) will appear if applicable.
<TARGET_MARKET_7>	12	9(05)	whole number	Number of cattle the insured expects to market in the seventh month of the insurance period. Not applicable for swine.

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Tag	No.	Picture	Rounding	Description
<EXP_GROSS_MARGIN_7>	22	(+ / -) 9999.9999	per ADM	Expected Gross Margin per cattle for Seventh Month from ADM L Suffix P. Only the negative symbol (-) will appear if applicable. Not applicable for swine.
<TARGET_MARKET_8>	13	9(05)	whole number	Number of cattle the insured expects to market in the eighth month of the insurance period. Not applicable for swine.
<EXP_GROSS_MARGIN_8>	23	(+ / -) 9999.9999	per ADM	Expected Gross Margin per cattle for Eighth Month from ADM L Suffix P. Only the negative symbol (-) will appear if applicable. Not applicable for swine.
<TARGET_MARKET_9>	14	9(05)	whole number	Number of cattle the insured expects to market in the ninth month of the insurance period. Not applicable for swine.
<EXP_GROSS_MARGIN_9>	24	(+ / -) 9999.9999	per ADM	Expected Gross Margin per cattle for Ninth Month from ADM L Suffix P. Only the negative symbol (-) will appear if applicable. Not applicable for swine.
<TARGET_MARKET_10>	15	9(05)	whole number	Number of cattle the insured expects to market in the tenth month of the insurance period. Not applicable for swine.
<EXP_GROSS_MARGIN_10>	25	(+ / -) 9999.9999	per ADM	Expected Gross Margin per cattle for Tenth Month from ADM L Suffix P. Only the negative symbol (-) will appear if applicable. Not applicable for swine.
<TARGET_MARKET_11>	16	9(05)	whole number	Number of cattle the insured expects to market in the eleventh month of the insurance period. Not applicable for swine.

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Tag	No.	Picture	Rounding	Description
<EXP_GROSS_MARGIN_11>	26	(+ / -) 9999.9999	per ADM	Expected Gross Margin per cattle for Eleventh Month from ADM L Suffix P. Only the negative symbol (-) will appear if applicable. Not applicable for swine.
EXPECTED GROSS MARGIN	Internal	9(10).99	dollars and cents	Sum of (Target Marketings by month times Expected Gross Margins by month).
COVERAGE LEVEL	Internal	9.999999	NA	For swine, coverage level submitted under the crop policy section. Not applicable for cattle.
<DEDUCTIBLE>	27	9(04)	NA	For cattle, deductible submitted. Not applicable for swine.
TOTAL TARGET MARKETINGS	Internal	9(05)	NA	For cattle, sum of Target Marketings by month. Not applicable for swine.
<GROSS_MARGIN_GUAR>	28	9(10).99	dollar and cents	For swine, Expected Gross Margin times Coverage Level. For cattle, Expected Gross Margin minus (Deductible times Total Target Marketings).
<LIABILITY>	29	9(10)	nearest whole dollar	Gross Margin Guarantee to nearest whole dollar.
SECOND MONTH GROSS MARGIN DRAW(i)	Internal	(+ / -) 999.999	per ADM	Second Month Gross Margin Draw from ADM L Suffix C.
THIRD MONTH GROSS MARGIN DRAW(i)	Internal	(+ / -) 999.999	per ADM	Third Month Gross Margin Draw from ADM L Suffix C.
FOURTH MONTH GROSS MARGIN DRAW(i)	Internal	(+ / -) 999.999	per ADM	Fourth Month Gross Margin Draw from ADM L Suffix C.
FIFTH MONTH GROSS MARGIN DRAW(i)	Internal	(+ / -) 999.999	per ADM	Fifth Month Gross Margin Draw from ADM L Suffix C.
SIXTH MONTH GROSS MARGIN DRAW(i)	Internal	(+ / -) 999.999	per ADM	Sixth Month Gross Margin Draw from ADM L Suffix C.
SEVENTH MONTH GROSS MARGIN DRAW(i)	Internal	(+ / -) 999.999	per ADM	Seventh Month Gross Margin Draw from ADM L Suffix C. Not applicable for swine.
EIGHTH MONTH GROSS MARGIN DRAW(i)	Internal	(+ / -) 999.999	per ADM	Eighth Month Gross Margin Draw from ADM L Suffix C. Not applicable for swine.
NINTH MONTH GROSS MARGIN DRAW(i)	Internal	(+ / -) 999.999	per ADM	Ninth Month Gross Margin Draw from ADM L Suffix C. Not applicable for swine.

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Tag	No.	Picture	Rounding	Description
TENTH MONTH GROSS MARGIN DRAW(i)	Internal	(+ / -) 999.999	per ADM	Tenth Month Gross Margin Draw from ADM L Suffix C. Not applicable for swine.
ELEVENTH MONTH GROSS MARGIN DRAW(i)	Internal	(+ / -) 999.999	per ADM	Eleventh Month Gross Margin Draw from ADM L Suffix C. Not applicable for swine.
SIMULATED GROSS MARGINS(i)	Internal	9(10).99	dollars and cents	Simulated Gross Margins(i) is the sum of (Gross Margin Draws(i) times Target Marketings by month).
<SIMULATED_LOSSES>	30	9(10).99	dollars and cents	Sum of (MAX (Gross Margin Guarantee minus Simulated Gross Margins(i)), 0).
<TOTAL_PREMIUM>	31	9(10)	nearest whole dollar	The result of 1.03 times (1/5,000) times Simulated Losses.
<PRODUCER_PREMIUM>	37	9(10)	nearest whole dollar	Producer Premium equals Total Premium.

Note: (i) = 1,2,...., 5000