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## PROFITABILITY AND STANDARD GROSS MARGIN AT SHEEP

IURCHEVICI LIDIA<sup>1</sup>

**Abstract.** *In Romania, must pay a particular attention to adapt the systems of sheep breeding and exploitation with the EU requirements. At the same time, it is necessary to protect and stimulate those characteristics of growing and exploitation of sheep that have competitive advantages on the quality of products obtained. It is important that the technological solutions adopted in the growing and exploitation of sheep to answer all product quality requirements, at European standards. The main objective of this paper is to provide technical - economic solution for sheep breeding to achieve a rate of return that would allow farmers to continue production activity in terms of economic efficiency. To facilitate analysis of the economic results obtained in the farming carried out and the structural characteristics of farms in our country, it is necessary to apply the Community methodology for determining the standard gross margin (SGM), as scientific support for technical - economic orientation.*

**Keywords:** *sheep, economic efficiency, costs, standard gross margin*

### INTRODUCTION

The raising of sheep has a tradition of years in our country. This species harnesses best the pastures and meadows, of which the largest part is situated in the mountain areas. It is a species with a well defined morphological features and a great power of adaptability to environmental factors. In our country, the growth and exploitation of sheep knows an upward development due to their valuable biological and economical particularities through the specialization of breeds for milk and meat. Also, meeting the milk requirements to produce a wide assortment of cheeses, in which the improved breeds are predominant and where there is already installed an old tradition for these products, it is another imperative in the development of this business.

Sheep, due to their number and property of quick breeding, higher production potential and lower costs of investment, maintenance and marketing of the products, they represent an economic opportunity.

### MATERIAL AND METHOD

The paper is based on a study concerning the breeding of sheep for milk and meat in an intensive system. The methodology for determining the cost of production is based on a number of technological features such as: for milk, the average production of 75 l liters/cap, and for meat an average daily gain of 200g/day, specific consumption 7,46 NU/kg gain, delivery weight 35 kg.

A special importance that the actual determination of the cost of production assumes is demonstrated by the need to ensure the recovery of the economically justified production costs but also the obtaining profit.

### RESULTS AND DISCUSSION

Due to its characteristics, the ovine species presents many advantages, both economic and social:

- This species adapts very well to all environmental conditions those being not pretentious nor food nor climate.
- The ovine contribute in an important measure to the improvement of vegetable production and to its increase of profitability.
- Sheep capitalizes economically different products (straw, stalks, haulm, chaff).
- Also contribute to raising the soil fertility, to the enhance of vegetable production, to the correction of grassland flora and 2-3 times increase of green mass production, by natural fertilizer, the manure representing a very good fertilizer.

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The production costs were determined based on the production technologies, each item of expense is rounded according to the average production, specific consumption period of exploitation, for the both breeding systems.

In determining the cost of production of the main livestock products, it starts from the size and structure of the direct allocation of human and material resources required for the smooth production processes.

### The calculation of total expenditures

The total expenses include:

- Variable expenses
- Fixed expenses

The main variable costs are:

1. Expenses with animal feed
2. Expenses with biological material
3. Expenses with electrical energy
4. Expenses with drugs and sanitary materials
5. Other material expenses
6. Expenses with supplies.

Feeding expenses is based on average daily intake, respectively fodder varieties included in the ration, the duration of maintenance, the delivery prices related to each type of ration and represents 72.7% of the total expenditure on milk, and for meat the feeding expenses represents 46.2% of the total expenditures (Table 1).

The expenses with biological material represent 4.4 % from the total expenditure for the sheep milk, and 38% for the fattening lambs.

The remaining costs of 22.9% respective 15.8% are energy and fuel costs, medicines costs, other material costs, supply and livestock insurance costs.

The main fix costs are:

1. Permanent expenditure on workforce
2. General expenditure
3. Interest on loans
4. Depreciation expense

Table 1. Main economic indicators

Specification	U.M.	Sheep milk 75 l/sheep Lei/l	Lamb meat 200g/day Lei/kg
Variable costs	Lei/kg	6,533	7,325
Fix costs	Lei/kg	0,713	0,455
Total production costs	Lei/kg	7,246	7,781
Costs for the main production (cost of production)	Lei/kg	3,246	7,209
Purchase price	Lei/kg	3,533	8,286
Rate of profit	%	8,8	15

### ANALYSIS OF ECONOMIC EFFICIENCY - SHEEP MILK

Income: the value of the total income is higher with 4% than the total expenditures.

Variable costs: represent 89% from the total expenditure, and within these, the largest share, of 78,5% hold the feed costs.

The cost per unit of product: is identified with the main product and expenditure and it is of 2,73 lei/liter.

The average selling price per unit of product: is the indicator by which total revenues were estimated and is 3 lei/liter.

Gross profit: 0,268 lei/liter respective 20,1 lei/head.

Sheep milk product: was estimated a 9,8 % profitability.

Labor productivity: for 1 liter of milk, labor time expended is 0,10 man-hours and labor productivity in terms of value is 30 lei/h/man.

Staff costs: at 1000 lei main production we have the amount of 177.78 lei.

The security index of the sheep milk production, for an average product of 75 liters is 57%. This negative value shows a sharp insecurity of the main product (milk). The value of the secondary production (280 lei/head) made out of lamb value, wool, reform and manure compensates the total production costs, so that in the end it is able to get profit. Otherwise, exploiting only sheep milk production is unprofitable.

### Determining breakeven

Simulations of possible scenarios

Nr. crt.	Indicators	Values	%	Breakeven RE=0	Obtainable result when increase the production by 20%	Obtainable results when decrease the value of production by 20%	Maintaining the initial result when fix costs are reduced by 10%
0	1	2	3	4	5	6	7
1	Value of the total production	505,0	100	366,43	606	404	468,45
2	Variable costs	432,5	85,64	324,08	519	346	401,18
3	Margin over variable costs	72,5	14,36	52,35	87	58	67,27
4	Fixed expenses	52,35		52,35	52,35	52,35	47,12
5	Gross returns	20,15		0	34,65	5,65	20,15

Breakeven of young sheep meat with an average production of 75l is 366,43 lei, value expressed and 122,14l expressed in physical units. Thus, the average production counts fall far below breakeven. If the total production (which includes secondary production value) increases by 20%, gross profit increases by 71,9%. The price at the farm gate can vary from 2,4 lei/l, if the value of the production is reduced by 20% and 3,6lei /l when the value of the production increased by 20%. It is estimated that sheep milk product situation is deeply unstable when the income is only from selling milk, as the main production value is below the yield by 63%.

### ANALYSIS OF ECONOMIC EFFICIENCY - YOUNG SHEEP MEAT

Income: the value of the total income is higher with 28,82% then the total expenditure.

Variable costs: represent 94,15% from the total expenditure, and within these, the largest share, of 49,1% hold the feed costs.

The cost per unit of product: is identified with the main product and expenditure and it is of 7,209 lei/kg.

The average selling price per unit of product: is the indicator by which total revenues were estimated and is 8,286.

Gross profit: 1,077 lei/kg respective 37,68 lei/head.

Sheep milk product: was estimated a 14,9% profitability.

Labor productivity: for 1 kg of meat, labor time expended is 0,05 man-hours and labor productivity in terms of value is 165,72 lei/h/man.

Staff costs: at 1000 lei main production we have the amount of 30,97 lei.

The security index of the young sheep meat production, for an average product of 200 g/head is 68%.

### Determining breakeven

Simulations of possible scenarios

Nr. crt.	Indicators	Values	%	Breakeven RE=0	Obtainable result when increase the production by 20%	Obtainable results when decrease the value of production by 20%	Maintaining the initial result when fix costs are reduced by 10%
0	1	2	3	4	5	6	7
1	Value of the total production	310,00	100	92,14	372	248	300,81
2	Variable costs	256,38	82,7	76,21	307,64	205,10	248,77
3	Margin over variable costs	53,63	17,3	15,93	64,36	42,9	52,04
4	Fixed expenses	15,93		15,93	15,93	15,93	14,34
5	Gross returns	37,70		0	48,43	26,97	37,70

Breakeven of young sheep meat with an average production of 200g/day is 92,14 lei, value expressed and 11,12 kg expressed in physical units. If the production output increases with 20 %, the gross profit will increase with 28,5 %. The price at the farm gate can vary from 7,08 lei/kg, if the value of the production is reduced by 20 % and 10,63 lei /kg when the value of the production increased by 20 %. It is estimated that the situation of young sheep production is comfortable, as the breakeven output value exceeds with 70%.

## CONCLUSIONS

Profitability of sheep farming depends on several factors:

- Scheduling births
- High prolificacy, respective a number of lambs per one hundred of sheep between 105 and 125
- Economic life quit good, between 6-7 years
- Increasing the number of staff
- Getting lambs from own breeding
- Seasonality of meat consumption
- The purchase price of gain

The profit earned is influenced by the number of farmed animals, which is why today the trend is to build large farms.

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