STUDY REGARDING EVOLUTION, CURRENT STATE AND PERSPECTIVES IN SHEEP BREEDING IN ROMANIA

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Abstract

After the integration of our country within the EU have occurred major changes in the sheep breeding sector. The purpose of this paper is to investigate the evolution and situation of sheep breeding sector in Romania in relation with the sheep livestock, the number and size of sheep exploitations, sheep breed structure, improving of genetic potential of livestock and sheep productions. To achieve these objectives we have studied the official statistical data, we calculated the percentage difference between the reference years and we interpreted data obtained. The results showed that the sheep livestock has increasing with 20.8% in 2012 compared with 2002 and with 15.1% compared with 2006. In terms of number and size of sheep exploitations, the results showed that in the year 2012 there were 271,266 exploitations of sheep of which 63.9% are individual exploitations that have an average number of 4.2 heads sheep per unit. However, compared with the existing situation in 2002, the number of exploitations is 2.4 times lower in the year 2010, especially based on decreasing of small exploitations respectively those which are framed in class less than 10 heads. Compared to the total number of sheep from our country, namely 8.83 million heads in 2012, the percentage of the number of sheep included in official control is very low, respectively 3.3%. The study shows also that meat production and milk production in particular have increased significantly over the period considered, while the wool production increased slightly.

Keywords: sheep, livestock, farms, production.

INTRODUCTION

Sheep breeding is a basic occupation in almost all rural areas of Romania and especially in the hills and mountains areas. This work dates from the beginning of his training and then continued, under various extensive or intensive forms. The development of this sector was due in large part to the conditions of soil and climate of our country, Romania being from this point of view one of the countries with the most appropriate conditions for sheep breeding (Taftă et al., 1997).

After the integration of our country within the EU have occurred major changes in many areas of activity and including in the sheep breeding sector (Răducuță et al., 2008; Răducuță and Ghiță, 2009).

Transition to market economy and changes in land ownership determined changes in sheep breeding. This requires a new approach, both technically and economically based on the market demand and compliance with veterinary requirements from this field.

In present the sheep livestock have decreased considerably compared to those existing in 1990 and the predominant direction in sheep breeding is mixed respectively for milk and meat. This fact is due to a better price for milk products and for lamb meat compared with wool.

The purpose of this paper is to investigate the evolution and situation of sheep breeding sector in Romania in relation with the sheep livestock, the number and size of sheep exploitations, sheep breed structure, improving of genetic potential of livestock and sheep productions.

MATERIAL AND METHOD

The analyze of sheep breeding evolution was made between 2002 and 2012 period. To achieve the research objectives we have studied the official statistical data provided by different institutions (Eurostat, Ministry of Agriculture

and Rural Development from Romania - MARD, National Institute of Statistics - NIS and National Agency for Amelioration and Reproduction in Animal Science - NAARAS), we calculated the percentage difference between the reference years and we interpreted data obtained. Finally, were issued the conclusions and recommendations arising from this study.

RESULTS AND DISCUSSIONS

The results of this study showed that the current sheep number in Romania amounts to 8.83 million heads in 2012, registering an increase of 20.8% compared to the existing one in 2002 and with 15.1% compared with 2006 (Table 1). But if we compare the number of sheep in 2012 to the year 1989 we see that it decreased by 45.5% (Eurostat, 2014).

Table 1. Dynamics of sheep livestock (thousand heads)

Specification	2002	2006	2012	2012/ 2002 (%)
Sheep number	7,312	7,678	8,834	+20.8

Almost the entire sheep livestock existing in the country in present are in private ownership (99.9%), with the exception of that existing in research units.

In terms of number and size of sheep exploitations, the results showed that in the year 2012 there were 271,266 exploitations with an average number of 30.9 heads per unit (Table 2).

Table 2. The structure and size of sheep exploitations in Romania in the year 2010

Specification	Number of exploitations	% from total	Average number (heads/unit)
1-9 heads	173,305	63.9	4.2
10-19 heads	44,027	16.2	12.2
20-49 heads	19,115	7.1	27.6
50-99 heads	14,383	5.3	66.8
100-199 heads	10,800	3.9	133.4
200-499 heads	7,464	2.8	292.9
over 500 heads	2,172	0.8	923.7
Total	271,266	100	30.9

From all 271,266 exploitations 63.9% are individual exploitations that have an average number of 4.2 heads sheep per unit and which hold these animals exclusively for self-consumption of family and only 7.5% of total exploitations have more than 100 heads, as average size of sheep farms existing in the EU.

From the table 2 data it can be seen also that in 2010 there are 2,172 farms with a capacity over 500 heads (of approx. 3 times more than in 2002), which although representing only 0.8% of total holdings, they have about 24% of the total number of sheep in our country (MARD, 2014; NIS, 2014).

However, compared with the existing situation in 2002 and 2007, the number of exploitations is with 2.4 times and respectively 2.0 times lower in the year 2010, especially based on decreasing of small exploitations, respectively those which are framed in class less than 10 heads (Table 3).

Table 3. The total number of sheep exploitations and average size of farm in the year 2002, 2007 and 2010

Specification	Number of exploitations	Average number (heads/unit)
2002 year	640,011	11.4
2007 year	533,094	15.9
2010 year	271,266	30.9

In 2002-2007 period the total number of sheep exploitations has decreased and especially those with size less than 10 heads while the average number of animals per farm has increased. These are positive things registered in the past 10 years in the Romanian sheep sector which are in compliance with the trend existing in developed countries, respectively the concentration of the animals per farm and increasing their genetic potential (Diaconescu and Nicolae, 2013).

As regards the sheep breed structure, there are six breed classes in Romania (year 2012), which hold, in order, the following percentages from the sheep livestock: Tsurcana (55.5%), Tsigai (22.1%), Merinos (10.9), Karakul (5.6%), Crossbreeds (5.7%) and Other breeds (0.2%). In the last class are breeds which were imported in the recent years for improving the morpho-productive parameters of our local breeds such as Lacaune, Friesian, Texel, Suffolk, Bluefaced Leicester, Ile de France, etc. (Table 4).

From this situation it is pointed out that the Tsurcana has decreased from 65.0% (year 2002) to 55.5% (year 2012) of the total sheep number in Romania, the difference being taken

mainly by the Crossbreeds which have a superior production compared with Tsurcana. From this point of view it is notable that the structure of sheep breed has changed in the right direction (NAARAS, 2014).

Table 4. The sheep breed structure in Romania

2002 year		2012 year	
Breed	%	Breed	%
Tsurcana	65.0	Tsurcana	55.5
Tsigai	25.5	Tsigai	22.1
Merinos breeds	6.5	Merinos breeds	10.9
Karakul and other breeds	3.0	Karakul	5.6
-	-	Crossbreeds	5.7
-	-	Other breeds (imported)	0.2

Genetic improvement of animals is achieved through selection and crossbreeding methods on the base of official control of livestock performance and through the controlling of animal reproduction process.

After 1990 year some economic, technical and social changes, led to the sheep breeding modifications, such as changing exploitation direction, cancelling herd improvement activities through the disappearance of populations with genetic role, reducing of farm size, increasing of operating expenses, very low prices for the obtained products, which have limited the application of technical activities on animal breeding, improvement of genetic potential of breeds and the production of breeding material.

In Romania, improvement of genetic potential of livestock and conservation of genetic resources are activities funded from the public budget. After 1990, however, the funds allocated for these activities were inadequate, and besides this it is noted the fact that for the sheep species was developed an improvement breeding program in 2003 (ie after 13 years).

Presently, official control of production in sheep and goats is technically coordinated by the National Agency for Amelioration and Reproduction in Animal Science and executed by accredited associations. In 2012 existed 42 accredited associations for official contol of productions in ovine and caprine animals and 10 associations accredited to conduct genealogical register for these species.

In the control system, "origin and productivity" - OP, during 2004-2012 the total number of sheep controlled increased from 26,565 to 106,268 head and in the control system, "own performances "- PP, the total number of sheep controlled increased from 79,114 to 182,387 head (Table 5). As compared to 2008, the total number of sheep controlled in 2012 fell by about 27%, the decrease is very significant among the control of animals in the "own performances " system – PP (NAARAS, 2014).

Table 5. Dynamics of sheep livestock taken in official control during 2004 – 2012

Specification	2004	2008	2012
Total number	105,679	39,842	288,655
System of Origin and Productivity - OP	26,565	53,169	106,268
System of Own Performances - PP	79,114	344,673	182,387

Compared to the total number of sheep from our country, namely 8.83 million heads in 2012, the percentage of the number of sheep included in official control is very low ie 3.3%, which means that there is a lot of work to significantly improve the genetic potential of our sheep livestock and the increase of the quality and quantity of yields obtained from this species nationally.

In the structure of the sheep breeds included in the official control are different breeds in function of share of economic character. From the table 6 data it can be seen that in 2012 local breeds account for 96.39% of the sheep included in the official control of the production, imported breeds 1.87% and crossbreeds 1.74% (NAARAS, 2014).

Table 6. Share of sheep breeds contained in the official control of productions in 2012

Specification	Number of exploitations	Average number (heads/unit)
Local breeds	278,232	96.39
Imported breeds	5,408	1.87
Crossbreeds	5,015	1.74
Total	288,655	100

The maintenance system of animals is extensively, based on the maintenance of sheep to pasture in warmer seasons (spring, summer, autumn) and maintenance in shelters in cold season (winter) or semi-intensive system. The extensive system is more economical, by

exploiting of cheap fodder (grass on pastures and hay from meadows) and the exploitation of local breeds (Tsurcana, Tsigai), but less productive in terms of yields obtained (Răducuţă, 2012).

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The intensive system is rarely met in our sheep farms, because needs big investment in biological material, machinery, equipment, instalations and feed additives (Marin and Drăgotoiu, 2002).

Regarding the evolution of main productions of sheep in our country, we can observe that all registered an increasing in 2002-2012 period and especially milk production (Table 7). However it should be noted that this production growth is not due to the increase of yield per sheep but it is caused by the increasing of sheep number.

Table 7. Dynamics of sheep productions
(thousand tonnes)

Specification	2002	2012	2012/ 2002 (%)
Wool production	16.7	18.6	11.4
Meat production	51	69	35.3
Milk production	345	651	88.7

In perspective, the sheep livestock will remain relatively constant or will continue to record a slight growth and the concentration of animals in middle-sized farms will increase, with increasing yields per animal.

Sheep sector in Romania needs to be restructured to improve its competitiveness. A transparent information on the cost of production, price of products and profit is a necessary step towards reducing imbalances in the food chain. To preserve and develop the interest of consumers, particularly to young people, for food products obtained at this species is necessary strengthening and improving promotion of these products.

CONCLUSIONS

The current sheep number in Romania amounts to 8.83 million heads in 2012, registering an increase of 20.8% compared to the existing one in 2002 and with 15.1% compared with 2006.

In terms of number and size of sheep exploitations, the results showed that in the year 2012 there were 271,266 exploitations with an average number of 30.9 heads per unit.

As regards the sheep breed structure, there are now six breed classes in Romania, respectively: Tsurcana (55.5%), Tsigai (22.1%), Merinos (10.9), Karakul (5.6%), Crossbreeds (5.7%) and Other breeds (0.2%).

The percentage of the number of sheep included in official control is very low, respectively 3.3%. All productions registered an increasing in 2002-2012 period, but this fact is due to the increasing of sheep livestock.

Sheep sector in Romania needs to be restructured to improve its competitiveness. A transparent information on the cost of production, price of products and profit is a necessary step towards reducing imbalances in the food chain.

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