

The romanian Tsigai sheep breed, their potential for organic cheese production

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Abstract

The indigenous Tsigai sheep is the second most important sheep breed in Romania. The share is 24.3% of the total sheep in the country. Until 1989, Tsigai sheep were mainly kept for wool production, milk and meat were coproduction. During the communist period research focused mainly on wool production and wool characteristics. The production targets of sheep keeping in Romania has changed. Since 1989, the total number of Tsigai sheep decreased by 44% to 2.100 mio ewes. Given this aspect and the fact, that after 1989 keeping directions of Tsigai breed have changed, lamb and milk production are equal importance. Nowadays, wool production is nearly unimportant. It is desirable to know the current state of Tsigai breed and to define and design strategies to rescue this local breed with new functions and performance. This shall be the future target of the research station in Reghin. A participatory study has been carried out in 2011 to define the future strategy for Tsigai sheep research. The results of the study showed that 77 % of the total surveyed farms predict that they will increase the sheep number in the future. In terms of direct payments per area, 90 % of breeders receive payments/land area. 37 % of the breeders believe that without payments/land area, they would not practice this activity. The direction of sheep raising is for milk-meat for 77 % of the surveyed farms. In the future, provided significant changes of sheep keeping direction of Tsigai breed for meat-milk production (53 %). Organic cheese production is considered as a market option for the export.

Key words: Tsigai sheep breed, milk, meat, research, Romania, organic cheese

Introduction

Sheep keeping were, is and will be important part of Romanian agriculture. 20 % of the country areas and about 30 % of Romanian agricultural areas is represented by permanent pasture (about 5 million ha) (Marușca 2011). This area, other marginal land and marginal agricultural products can feed 12 to 16 million sheep. Today less than 9 million sheep are kept in Romania. Moreover in Romania there is still a great tradition and experience for sheep production with adopted local and multi-purpose breeds. Second important sheep breed in Romania is the Tsigai sheep with 24,3% of the national sheep herds (first is the Turcana sheep with 52,4%). Tsigai breeds are kept in mountain and submountain regions with large areas of pastures in an extensive way. Like Turcana, Tsigai

sheep breeds are multipurpose breeds with focus on cheese production. The lamb production becomes more interest in the last years, due the possibilities to export the lambs, being in live delivered in the largest share in the EU countries.

Having to face the twentieth century challenge, to change from and to the market economy, Romanian sheep production is now in a turning point with no clear future. This paper will try to explain the recent performance and the future outline of the Tsigai breed. The role and the challenges for research in context of the socio-economic frame conditions in Romania to develop and protect this adapted breed will be derived.

Today, Tsigai breed are kept in Romania for their dairy products, for the slaughtered young lambs (4-6 weeks, 10-12 kg), and for wool production. The ewes are milked. The performance of some Romanian sheep breeds for milk production and milk composition is shown in Table 1.

Table 1. The performance of some Romanian sheep breeds

Breed	Milk production (liters)	Fat (%)	Protein (%)	Solid (%)
Turcana	100-140	7,7	6,0	16,65
Tigaia	70-90	7,0	6,5	15,02
Merinos de Cluj	85-95	7,4	6,3	13,49

Source: Lujerdean et al. 2009

Sheep's milk is consumed only as processed (either traditional or industrial) in the form of feta cheese, sheep cheese or other products obtained only from sheep or sheep's milk mixed with cow's milk. Cheese consumption in Romania is around 2.5 kg year⁻¹ person⁻¹ (Nistor et al 2010). Most of the milk production is traditional processed, and is for family consumption or for sale on tourist markets or peasant markets, through direct marketing channels. A small amount of milk production is delivered to processing companies and marketing channel in this case is short, consisting of processor, intermediary and consumer (Manole, 2011). The main traditional products made from sheep's milk are: „caş” (cheese), „brânza de burduf” (a strong, salty and kneaded cheese kept in stomach/skin of the sheep), „brânza în coajă de brad” (kneaded cheese kept in pine bark), telemea (a fresh, whole feta-type cheese), „urda” - is made with the whey of the „caş” (cheese). It is like ricotta, relatively high in protein and low in fat.

Milk production and its transformation into different products are important activities that contribute to the supplement of farms income, but, unfortunately, sale of dairy products is poorly organized. An important outlet could be foreign market, where products obtained by traditional methods enjoy a good appreciation, demand being in growing. A new string of organic production is appearing. Organic sheep cheese farms are more professional compared to traditional production.

Because Tsigai race is a rustic breed, over time there were a series of researches to improve milk and meat production, works which were based on the use of industrial crossings with imported specialized breeds.

Thus, to improve milk production of Tsigai breed, at Research Institute of Palas Constanta were conducted industrial crossing in the period 1975-1983 between local Tsigai breed with rams from Awassi and East-Friesian sheep breeds. Although the yields obtained from female crossbred were superior to Tsigai breed, introducing a crossing program was not possible, because the breeds used in the experiment was difficult to adapt to environmental conditions in our country (Păunescu et al. 1985).

The starting point to avoid giving up the raising of Tsigai breed, it would be an economic motivation, that will provide decent incomes for families of sheep breeders. As noted, the most important reason for increasing the national sheep flock since 2002 has been awarded grant for animals under

the *official control of production* (OCP), and since 2007 by providing animal and land area payments, which has been beneficial for farm development.

In this context, finding new niches to bring added value (organic) to sheep farms would be a good argument for the breed preservation and keeping.

Material and method

For the collect information, were made visits in sheep breeders farms, surveys and telephone interviews. Regarding data collection, visits were made on farms and telephone interviews in 30 small, medium and large sheep farms (10 from each category). The investigation was conducted in November-December 2011. The addresses of surveyed sheep farms were taken from breeders' associations.

For the survey achievement, before was conducted a questionnaire comprised 55 questions grouped into seven categories, as follows: data on the farm (12 questions), farm management with questions related to milk, meat and wool production (19 questions), market and marketing (4 questions), the existence and necessity of research units (9 questions), research and development (1 question), education and extension (5 questions), organic agriculture (5 questions).

The interviews lasted between 15 and 45 minutes, the average was estimated at about 20-25 minutes. At the end, was requested opinion of sheep breeders regarding survey questions and points of view, that were not included in the questionnaire.

Results

In total were 30 farms surveyed which have 18 273 sheep of Tsigai breed (average 609.10 ± 160 sheep). Tsurcana breed can be found alongside the Tsigai breed in 43 % of the surveyed farms. Of the total surveyed farms, 77 % predict that they will increase the sheep number in the future. A percentage of 33 % of the farms were included in the official control of productions (OCP). Practicing this activity, provide a decent living for 70 % of farmers family, those who can't provide a decent family living by practicing this activity are generally farms with effective till 350 sheep, and only a farm with over 800 sheep. 73 % of surveyed farms have foreign staff employed at farm, works being carried out, both in winter and summer, by family members.

Currently, the direction of sheep raising is for milk-meat for 77 % of the surveyed farms. In the future, provided significant changes of sheep keeping direction of Tsigai breed for meat-milk production (53 %). The main reason for the orientation of sheep breeders of meat-and-milk production is the lack of human resources. Farmers believe that, if sheep raising is oriented for meat production, labor volume is much lower (by removing the milking and leaving lambs to suck up to the end of August). On the other hand, increasing demand for meat production and satisfactory prices obtained from the lambs capitalization is a strong enough motivation for them, to straighten to this production.

In terms of milk production, 93 % of the farmers are satisfied with the milk production obtained from Tsigai breed. Although farmers believe that milk yields from Tsigai sheep is good, 77 % want to improve this production in the future by crossing it with specialized breeds for milk production (39 %) or selection (61 %).

More than a half of farms included in the survey, process the milk in their own farms (70 %), while 27 % deliver it directly to a processors. From the milk obtained and processed in farms, breeders made traditional products, the first among manufactured products is telemea (a fresh, whole feta-type cheese), which is produced in 85 % of the farms, followed by sheep's cheese („caş”). In general, at farms level is done more than one dairy product. Therefore, 57 % of the farms that produce traditional dairy products is done three products, so:

„Telemea” (feta-type cheese) + „Caş” (cheese) + „Urda” (67 %), „Telemea+„Brânză frământată” (kneaded cheese) + „urda” (25%) or „Caş” + „Brânză frământată” + „Urda” (8.33%). In 97 % of surveyed farms, products are both for market and consumption.

Regarding the sale of dairy products obtained from sheep, majority of breeders sell their products directly, either in markets or fairs (33 %), directly from home (13 %) or through intermediaries (20 %). Just a little part from the breeders (67 %) capitalize their products in supermarkets. The main reason, that the breeders can't capitalize their products in supermarket is that only 7 % from the exploitations have got products with trademark.

90 % from the interviewed would like in the future to realize at associations level, where they belong, regional products with trademark (e.g., organic). Dairy regional products with trademark are desired by 63 % from breeders, while the meat products are desired just from 22 %. For the dairy and meat products achievement have expressed their option 15 % from the questioned.

97 % of the questioned exploitations practice conventional agriculture, just one exploitation being in conversion (3 %). In general, the breeders knowledge about organic agriculture are minimal (80 % from the questioned) and it is limited at the fact that, they know that using chemical fertilizer and pesticides are forbidden in the case they would practice organic agriculture. The reasons, why they don't practice organic agriculture are various, but in the most cases is invoked by the lack information (28 %), lack of ownership land (21 %), the documentation volume for the exploitation certification (10 %), and on the same level (7 %) is the low animal effective with the lack of organic feed.

The strongest motivation for practicing organic agriculture could be of economic nature (34 %), this meaning the incoming obtained in the practice of the organic agriculture to be superior of which they done in present. Not only the economic factor plays an important role in taking a decision in this direction, but also owning their own land (17 %) and the existence of the organic certificate feed (14 %). In the same measure (3 %) are said to simplify the documentation, the existence of other breeders who practice organic farming, and better knowledge of the situation of organic farming.

Regarding the problems of sheep breeders which could meet for practicing organic farming, 31 % of those surveyed do not know what problems they would encounter, 28 % believe that lack of certified organic feed would be the main problem with which would face, 14 % think that there would be no problems, while equally 7 % of those surveyed believe that treatments, lack of demand and market products could be major problems.

Conclusions

In order to improve sheep husbandry in Romania, and especially to preserve local Tsigai breed, are necessary to perform direct actions involving both research and the sheep breeders, and other decision makers, actions materialized in:

1. Establishing dairy premium products, identifiable by quality labels and geographical origin (PDO, organic) and their inclusion in a chain of organic production for adding more value to the race.
2. Improving the marketing of the product by conducting activities to help strengthen the product profile, creating a regional image and inform customers about products quality, production conditions and conservation benefits of the Tsigai breed.
3. Recovery of feed resources on submountain and mountain pastures by extensive grazing with effect on landscape conservation and the maintenance of valuable plant species in vegetal cover leading to regeneration and nature conservation.

4. Involvement of decision makers for providing the state aid regarding the use of genetic resources of endangered animals.
5. Initiating research for organic cheese production from Tsigai breeds.

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