



## Why should be rescued the black variety of the Red face Tsigai?

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**Abstract.** The present paper analyses the reasons and possibilities of rescuing the black variety of the Red face Tsigai sheep breed. The Romanian native Tsigai sheep is the second most important (in terms of population size and productions given) sheep breed in Romania. Analyzing the capitalization of the breed production performances concerning its meat, milk and wool production it can be seen that the Tsigai breed's performances is not maximally valorized on any of the enumerated categories. As the breed cannot compete (in term of quantity) with meat or diary specialized breeds, its real possibilities could be exploited targeting niche markets. As the main valences of the breed we can mention its qualities (with technological and economic implications) as: pronounced herd spirit, harsh nature (weather – high precipitation), capacity to valorize alpine pastures (spontaneous flora rich in hundreds of herbs), its production capacity in those conditions, etc.

**Key Words:** traditional products, pasture based, handmade, manufactures, organic production.

**Introduction.** The Tsigai sheep breeding in Romania can be split in two era, namely before 1990 and after 1990. Previous 1990 the breed main exploitation was focused mainly on the wool production while meat and milk was considered coproduction. In the the communist era research focused mainly on wool production and wool characteristics. Meanwhile the production targets of sheep sector in Romania has changed. Since 1989, the Tsigai sheep population decreased by 44% to 2.100 mio ewes. After 1989 exploitation directions of the Tsigai breed have been changed, and lamb and milk production are of primary and equal importance. Nowadays, wool production is unimportant and neglectable (Ilişiu et al 2012).

Although there is a wide literature concerning the Tsigai sheep breed production valences, especially in cross breeding programs (Ilişiu 2009; Ilişiu et al 2010, 2018; Zamfir 2010), in the present paper we try to present the pure breed possibilities on the international market, and its genetic preservation importance.

**Current state and capitalization possibilities.** In our previous paper (Rákossy et al 2019), we have already briefly explained why the black variety of the Red face Tsigai has

become obsolete and, as a result, how they have become endangered by extinction. We will now elaborate the main problems of the breed economic perspective, and then try to summarize why, despite all these problems, we need to save and maintain the black variety of the Red face Tsigai populations.



Figure 1. A few individuals of black variety of the Red face Tsigai at a sheep show in Kászón (in Romanian: Plăieșii de Jos), Harghita County, Romania (Source: <https://szekelyhon.ro>).

In general we consider the sheep as a specie which can be capitalized on three market directions: wool, meat and milk. Nowadays, there are many specialized breeds, in only one direction (Lacaune, Friesian - milk production; Dorper, Texel - meat production; Merino - wool production), while our Tsigai sheep, remains far behind in all areas. The Tsigai breed with its 60-80 L of milk production (Ilișiu et al 2012, 2013; Kusza et al 2018) is classified as very low productive compared to the European breeds (Rancourt & Carrère 2011), and its milk, which is slightly higher in protein and total solids than average (Ilișiu et al 2012, 2013; Kusza et al 2018) doesn't change the balance. With its prolificacy of 110-115% (Ilișiu et al 2013), it also competes for the last position, and even if lambs develops relatively better by the age of two to three months ( $200-250 \text{ g day}^{-1}$  with semi-intensive feeding) (Pop et al 2007; Ilișiu 2009; Polák et al 2013), they are still far behind of the meet specialized breeds  $400-500 \text{ g day}^{-1}$  growth rhythm (Fernandes et al 2014; Bokor 2018) (Figure 2). Even worse, after 30-35 kg body weight the lambs growing rate decrease significantly, and therefore their further fattening becomes even less economically efficient. The meat forms are also far below what the western market considers ideal, and the fat (tallow) coverage is too high.

If someone hopes any financial benefit from this sheep wool, which is relatively of a fine thread (32-37 microns), than there is another deception. Although white wool of the Red face Tsigai is bought, the price barely covers the cutting costs, but the wool of the black sheep's it is not collected by the buyers even if it can be taken for free.

A strange result of today is that there is a fourth form of income for sheep, which takes the appearance of various subsidies. The black variety of the Red face Tsigai missed that opportunity as well. According to the position of the Covasna County Sheep Breeders Association (Romania), they only accept for production control (monitoring) the Red face Tsigai, and the breed's black variety waits for the officials decision. Paradoxically, the decision for which the breeders have to wait concerns the breed color variety they should be subsidize. The answer is obvious, but unfortunately, decisions about this are made by persons, who haven't even seen it.



Figure 2. Carcass comparison: our black woolled Tsigai carcass is far behind of any of the three carcass presented (Source: [https://www.researchgate.net/figure/A-typical-NWS-lamb-carcass-flanked-by-two-carcasses-homozygous-for-the-MSTN-mutation\\_fig1\\_41188307?fbclid=IwAR2HMVSnZ4QOosY0mBH7H8AcHBUD-Vs78yhfiagBl0pgEazfMyoht5dX5-w](https://www.researchgate.net/figure/A-typical-NWS-lamb-carcass-flanked-by-two-carcasses-homozygous-for-the-MSTN-mutation_fig1_41188307?fbclid=IwAR2HMVSnZ4QOosY0mBH7H8AcHBUD-Vs78yhfiagBl0pgEazfMyoht5dX5-w)).

In the view of the above mentioned aspects, it is quite obvious that the fate of the black variety of the Red face tsigai is as dark as possible. Without any exaggeration, this is the cruel truth. Considering this it is not surprising that this strain needs to be rescued but that there is still something to rescue. The question that comes up again and again is whether there is a need to do anything for them, or accept that the world has surpassed them and to switch to breeding toward a more productive breed?

For us, the answer is clear: we need to save them! Primarily because they are national heritage. They are part of our culture, our roots, and which tree leaves its roots, figuratively speaking, it falls out and rots. We and our offspring have the right and need to sometimes feel, see, what our ancestors were doing, what animals they kept, what they made their clothes from. It is quite a different feeling to enter a Tsigai herd kept in a traditional barn (Figure 3), like to see any of a specialized breed flock kept in a metal structured barn. We should not take this feeling from posterity!

However, if we put our feelings aside and we address the subject only rational, profit-oriented, we can still find a reason to preserve our breed. Let's start immediately with the most important attributes: our mountain pastures are not endured by intensive/specialized breeds, or they underutilized it. The Tsigai breed, due to its herd spirit (Rakossy et al 2019), harsh nature and modest requirements toward food, they can thrive and produce on lands where the most of the super specialized breeds, in one-two months would lose weight, would become limping, or due to the lack of the herd spirit they would be lost from the herd and would become a victim of wildlife. As long as we insist on our mountain pastures (Figure 4) and area-based support (subsidies), our native sheep breeds will be needed.



Figure 3. Old, traditional wood barn in Păuleni-Ciuc, Harghita County, Romania (original).



Figure 4. Alpine pasture (original).

The meat production of our sheep's is not high, but due to the ancient nature of the breed and the feed of varying composition and rich in herbs, the meat taste is more complex, richer, compared with an industrial breed, and a little marketing could open the eyes of western gourmets toward this kind of products. In our opinion, a well-organized advertising campaign, and with controlled production conditions we could reach the level, so that we can sell lamb meat as a protected product at a much higher price, even in the western market. A good example of this is the success of the Kelemer lamb (<https://kelemerifarm.hu/kezdolap>).

Making milk production more profitable seems the most difficult, and, above all, the development of machine-milking technology on pasture seems to be the key in this direction. If this could be solved, the products would be more varied and of higher quality from hygienic milk, and the cost of obtaining milk can be significantly reduced, by reducing the number of milkers. The taste and quality of the milk is already given, and despite the small quantity, it is not a hopeless area, only the details of the processing need to be refined (Figure 5). According to Ilişiu (2012) in its study concerning potential of the Tsigai breed for organic cheese production stated that organic cheese manufacture is considered as a market option for the export; underlining the breed's importance.



Figure 5. A traditional handmade but not competitive sheep cheese (Source: Internet).

And finally the wool: the west has already gone through the problem of black wool. For a long time no one needed the black wool, since the wool industry was looking for only white wool, colorable in any kind of color. However, today's more environmentally conscious consumers are increasingly appreciating naturally colored wool, and big fashion brands are increasingly working with black wool, so by now, in many western countries, black wool was priced higher than white (Figure 6).



Figure 6. Natural colored black wool at the English market (Source: Internet).

**Conclusions.** Summarizing, we consider that at some point the black variety of the Red face Tsigai's, meat, wool and cheese specialties, will be marketed as high quality traditional products, improving the profitability of maintaining the breed. We should consider the breed's main qualities (with technological and economic implications) such as: pronounced herd spirit, harsh nature (weather – high precipitation), capacity to valorize alpine pastures (spontaneous flora rich in hundreds of herbs), its production capacity in those conditions, etc. However, if the remaining specimens become too rare, the above mentioned opportunities could be compromised.

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