

The Origins of the Turcana Sheep Breed Varieties and the Migration of the Populations to the Main Breeding Areas

Dana-Iuliana Neață*, Teodor Vintilă

University of Life Sciences "King Mihai I" from Timisoara, 300645, Romania, Faculty of Bioengineering of Animal Resources

Abstract

The insular breeding system dictated by the area in which the populations of Turcana sheep breed were formed and by the way in which the selection activities were oriented, in these geographical Romanian areas, has created a series of colour varieties, with certain performance characteristics, which have notable differences from each other. Thus, depending on the use of related individuals of the same colour for reproduction, the following varieties were formed: Turcana bucalaie, Turcana bala, Turcana breaza and Turcana oachesa. All these varieties have the chance and can become in time self-sustaining breeds, which can improve the genetic heritage of the sheep species in Romania and in the world.

Keywords: herd book, sheep, transhumance, turcana

1. Introduction

The following work represents a bibliographical study which has allowed defining the course from the area of formation of each of the four varieties of Țurcană to the main growing areas currently in Romania and the phenotypic differences between them.

The great diversity of breeding conditions means that the productive potential differs from one area to another, but also within the same area, depending on the genetic value of the various flocks in certain holdings. The conditions in which certain varieties were formed, the selection made by certain breeders, whose priority objectives were milk, meat, wool, resistance to environmental conditions and transhumance, have created, through the careful choice of partners in the breeding process, one of the most valuable breeds, from an economic

and social point of view, bred in Romania and beyond.

Turcana originated in the Krit region of the Aegean Sea, from where it gradually spread throughout the Balkan peninsula and from there to the territory of present-day Romania and Hungary and then throughout Europe. The earliest documentary sources attest, directly or indirectly, to the existence in our country of a breed of sheep with thick wool and little demand for food, characteristics which correspond entirely to the Țurcana breed. Reproductive isolation is the essential factor that has led to the emergence and maintenance for centuries of subpopulations of the breed, which are scattered like islands over large areas where the breed is raised [1].

The Turcana breed is the most common and oldest local breed of sheep in our country. Very rustic, it is the sheep of the hills and mountain regions. It belongs to the group of thick and mixed wool sheep, exploited for milk, wool, meat and leather production [2].

* Corresponding author: Dana I. Neața,
dana.neata@yahoo.com

It has been domesticated since prehistoric times in the area of the Carpathian Mountains, where it was formed as a breed by natural and systematic selection, most likely coming from the *Ovis vignei arkar*. From this area it has spread, mainly through transhumance, to all the countries of Central Europe, covering areas of various relief and precipitation levels.

The current geographical range of the Țurcana sheep and the types derived from it is wide, covering Romania, and under the name of Wallachian or Zakel sheep it is found in southern Ukraine and Moldova, Greece, Albania, Yugoslavia and Croatia. Bosnia-Herzegovina, Slovenia, the Czech Republic, Slovakia and Poland [3].

2. Materials and methods

The main material from which the information was obtained is the herd book of the Dacia County Association of Sheep Breeders together with the accredited associations for CPP (control of own production) By the competent authority ANZ (national agency for zootechnics)

The accredited associations operate throughout most of Romania. From the accredited associations for CPP authorized by the competent authority ANZ it includes the 4 varieties of Țurcană found in the breeders' holdings on which they operate.

Herds owned by breeders are between 50 and 500 animals, depending on the geographical area to which they belong. The accredited CPP associations, which are attached to the herd-book of the Dacia County Sheep Breeders' Association, have the necessary equipment to perform the measurements, as well as authorized controllers by the herd-book to carry out the measurements. Measurements are carried out according to the variety and age of the animals and are sent for processing in the computer software of the herd book.

Dacia Association, has in its herdbook structure, a number of approximately 990710 sheep from 27 counties of Romania.

In addition to the data taken from the herd book for the preparation of the research work on the origin of the varieties of the Țurcana,

bibliographical data and historical studies were also used.

3. Results and discussion

Breaza variety of Turcana sheep breed (Figure 1) has as its birthplace the basin of the Jiu Valley bordered by the abrupt peaks of the Parâng, Șureanu and Retezat mountains, with villages such as Petrila, Lupeni, Straja, Campul lui Neag, Aninoasa, Bănița, Jieț, Crivadia, Baru Mare up to Bumbeștii Gorjului. From this region, breeders spread Breaza variety through transhumance, mainly in northern part of Romania (Figure 2).



Figure 1. Breaza Variety [5]

The exact time and methods of formation of this population are not known, but it is certain that the people of the area exploited the occurrence at some point of a genetic mutation in the population that shows the phenotypic characteristics of the current population [4].

The defining phenotypic feature is the distinctive face design with dark brown to glossy black cheeks, framed by a narrower or wider white breccia in the shape of the letter 'V' or imperfect triangle, with a base in the forehead (horns) area descending to the upper lip border. It is very important to note that the characteristic breccia in correlation with high milk production, above the population average in individuals retained for breeding, has created over time a positive correlation between phenotypic appearance and milk production [6].

The Breaza sheep have a fine to robust constitution characteristic of mountain sheep with a waist between 50 and 70 cm and a body length between 70 and 110 cm.

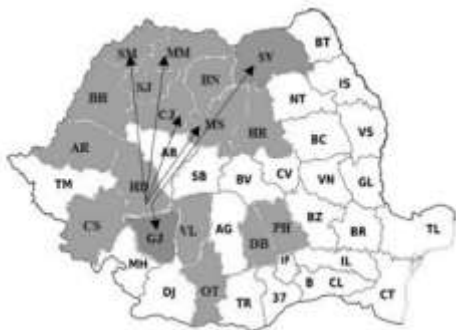


Figure 1. Migration of the population of Breaza variety [5]

The body is pear-shaped describing almost a trapezoid with a large base on the line of the buttocks supported on four strong legs finished with black nails very resistant to walking and sturdy in hard, stony ground [7].

The thorax is sufficiently wide, long and deep to support the heart and lungs, which are very well-developed anatomical characteristics that favour a high respiratory capacity translated into pronounced vitality, increased feed consumption and finally high milk production. The head is slightly convex with well-developed horns continued with a neck well attached to the trunk, long and thinner than the other varieties [8].



Figure 2. Bălă variety [5]

Bălă variety (Figure 3) has white haired head and limbs or sometime small black spots near the lips or eyes without staining the face and turning them into white sheep with a splashed face.

As a subvariety of the Bălă population, the **Oacheșă variety** (Figure 4) sheep show a circular outline around the eyes. This population was created over time by careful selection of rams without black spots, which were used on sheep showing the same pattern of wool and fleece colouring.



Figure 3. Oacheșă Variety [5]

Within Bălă variety there are two ecotypes; a massive ecotype which grows in the pre-Carpathian area of the Cibin Mountains and the Sebes Mountains; and another ecotype created in this small variety in the Vaideeni area and Mures basins.

Poiana Sibiului is the most important basin in this area with growers spreading in the neighbouring localities (Rasinari, Raul Sadului, Salistea, Orlatu, Tilisca, Jina). Breeders from these areas migrated in a very high percentage to the fields of Timis and Arad where they continued the selection on colour and high performance in the direction of wool and milk production [9].

Further west, about 30-35 km from Poiana Sibiului is actually the basin where it was formed and from where it migrated all over Romania and beyond. This basin is circumscribed in the area of Sugag, Loman, Sasciori and continues westwards with the area of Pianul de Sus, Strungari and Purcareti, a basin that connects with the Hunedoara area through Mugeni and Feteni.

Sheep from the Loman and Pianul de Sus basin have a higher body development compared to those from the Poiana Sibiului, Rasinari, Vaideeni and Mures basins.



Figure 4. Migration of the population of Bălă variety [5]

Sheep bred in these basins have dispersed due to transhumance in all the traditional breeding basins of Romania (Figures 5 and 6) from Maramures, Bistrita, Satu Mare, Bihor to the south extreme Dolj, Olt, Mehedinti.



Figure 5. Migration of the population of Oacheșă variety [5]

Bucălaie variety of Turcana sheep breed has the hair on the front of the head and on the extremities of the limbs darker or lighter brown (Figure 7). The lambs at birth are smoke-coloured and at 5-6 months of age they turn white except for the extremities which remain chestnut. Lambs that are dark smoky at birth have black wool hairs in the fleece as adults, which is a defect in selection for wool production and are eliminated from breeding.



Figure 6. Bucălaie variety of Țurcana [5]

Bucalaie sheep are mainly bred in the Novaci, Crazna, Baia de Fier, Tismana, Pestisani basins in the Gorj basin and Baia de Arama, Marasesti, Godeanu in Mehedinti county and Ursici, Luncani, Costesti and Cioclovina in the Hunedoara basin (Figure 8). As a special characteristic of this population, they are bred at altitudes of 1400-1500 m in the Parang-Lotru, Orastie and Retezat Mountains.



Figure 7. Migration of the population of Bucălaie variety [5]

This variety has two representative types: one with a glossy black face and limb, one with a dark brown face. This variety grows with weight in the Hunedoara basin from the Luncani-Tarsa areas and the Gorj basin, with the Novaci-Crasna- Tismana areas, up to the Godeanu massif with the Baia de Arama- Marasesti-Titerlesti- Obarsia Closani localities [10]. For all these areas, the altitude of 1400-1500 m has created massive sheep, resistant to mountain

environmental conditions and a pronounced resistance to transhumance.

The black smoky fleece with extensive black yarns in the neck area, with a high percentage of black yarns in the wool pad, on the whole body, especially along the back and shoulders, is particularly common in the southern areas of Oltenia (Oprisor, Plenita, Motatai, Maglavit).

4. Conclusions

The four varieties of the Țurcana sheep breed emerged due to insular selection and of the herds.

The Băla variety developed in the Șugag-Loman area and has a body development corresponding to an animal with mixed production (milk, meat, wool). The Bucălaie variety appeared in Hunedoara County in the Orăștie and Luncan areas and, of course, in the Novaci basin, Gorj county. The Oacheșă variety originated in the area around Sibiu and developed in this area, migrating as far as Alba County. The Breaza variety originated in the Petrila, Petrosani area and developed in this area of the Șurianu-Parâng-Retezat Mountains and has a great capacity for milk production.

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