

CONFORMATION PHENOTYPIC VALUES IN TZIGAIE BREED FROM S.C.D.P. JUCU

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Abstract

Our study follows the characterization from morpho-productive view of ovine Tzigaie population existent in Research and Development Station for Meadows Jucu as concerns the main conformation and constitution features. Were comparatively followed the main conformation and constitution features in Bucalaie and Ruginie varieties of Tzigaie breed existent in Jucu. The observations concerning: body weight, height, croup height, trunk length, chest width, croup width, thorax depth, thorax perimeter, tibia perimeter and body weight at parturition, were done on a numerical representative force of 100 individuals appertaining in equal parts of the two varieties. Using the specific methodology were calculated the average values for analyzed features, the standard deviation and variation coefficients as variability rates and were established also the differences among average values for studied features of the two varieties. After the study we observed that in the majority of analyzed situations the Bucalaie variety presented superior values given to Ruginie one. The differences between the two varieties are ensured statistically at different significance limits in favor of Bucalaie variety for next characters: height, croup height, trunk length, thorax perimeter and lambs weight at parturition. The effected research puts into evidence the good potential of Tzigaie breed and especially of Bucalaie variety as participant in the crossing programs, especially with meat breeds.

Key words: Tzigaie, Ruginie, Bucalaie, biometry, conformation

INTRODUCTION

The human society development rhythm needs introduction in practice of some modern investigation methods of animal genetic potential and their improvement.

In this context submits the ovine populations' improvement from our country by orientation of selection works and mating supervision in tight connection with exploitation directions.

The Tzigaie breed origin is from *Ovis Vignei-arkar*. The domestication center of this breed was the Caspian Sea zone from where by Millet merchant means, which have done trade with the cities from Black Sea and Danube River arrived also in Romania.

Because of great adaptation capacity, from lowland zones where initially was bred in our country, the Tzigaie breed extended in hilly zones and relatively small forces even also in some mountain zones.

The Tzigaie is a typical breed with mixed production, wool-milk-meat, in general appreciated for good performance level that registered for the main production categories, but especially for the great resistance and adaptation capacity to very diverse climatic and technological environment conditions. These qualities are due to resistance and rusticity that characterized this breed.

Inside Tzigaie breed are distinguished four varieties, which differ by exterior aspect: chubby, rusty, white and black.

In our study we followed comparatively the main conformation and constitution features in Chubby and Rusty varieties inside ovine force of Tzigaie breed, bred and exploited in S.C.D.P. Jucu.

The exterior study of an animal must be considered as one of the complex element, which can help us to establish the zooeconomical aptitudes of each individual, his

biological value in the improvement process of population that apart.

The knowledge of anatomical basis, the size, shape, direction and attaching manner of each region or segment inside unit, constitutes an important lever in the continuous improvement of the existent breeds.

The study proposes characterization of morpho-productive view of ovine population from Tzigaie breed existent in Jucu Station by means of main conformation features.

MATERIAL AND METHOD

The biological material submitted for study is represented by two samples of ovine mothers, Chubby and Rusty varieties from Tzigaie breed appertained of Research and Development Station for Meadows Jucu, Cluj County. In this unit the ovine force actually is of 420 heads distributed in approximate equal proportion between the two varieties: Chubby and Rusty.

The observations concerning the main conformation features: body weight, height,

croup height, trunk length, chest width, croup width, thorax depth, thorax perimeter, where done on a number of 100 heads, 50 heads of each variety. The sample size on which were done the observations was established congruent with variability level existent in population for analyzed characters pursuant to it are representative for appertaining population.

In view to estimation of the body weight of lambs at birth were done measurements on 100 individuals from each variety.

The obtained data were processed establishing the average, dispersion indices and differences between variants analyzed for main conformation features. The differences' testing and their statistical interpretation were done by means of Student test (t).

RESULTS AND DISCUSSIONS

The results representing the average values, dispersion indices for analyzed characters on the two varieties of Tzigaie breed, as well the differences and signification among them are presented in Table 1.

Table 1
 Average values, differences and their significance for main conformation features in Tzigaie breed

Specification	Variety	n	X ± sx	s	V%	d	t	Signification
Body weight	B	50	47,10±0,71	5,05	10,72	1,02	1,04	ns
	R	50	46,08±0,67	4,80	10,41			
Whiter height	B	50	64,67±0,34	2,46	3,80	1,62	3,52	***
	R	50	63,05±0,30	2,17	3,44			
Croup height	B	50	66,24±0,34	2,41	3,63	1,09	2,22	*
	R	50	65,15±0,35	2,50	3,83			
Trunk length	B	50	67,48±0,61	4,38	6,49	1,92	2,31	*
	R	50	65,56±0,56	4,01	6,11			
Chest width	B	50	17,68±0,19	1,38	7,80	0,28	1,12	ns
	R	50	17,40±0,16	1,17	6,72			
Croup width	B	50	18,04±0,15	1,10	6,09	0,03	0,13	ns
	R	50	18,01±0,15	1,12	6,21			
Thorax depth	B	50	28,00±0,25	1,80	6,42	0,4	1,17	ns
	R	50	28,40±0,23	1,63	5,73			
Thorax perimeter	B	50	104,49±0,86	6,12	5,86	4,12	3,61	***
	R	50	100,37±0,75	5,3	5,28			
Tibia perimeter	B	50	9,30±0,09	0,67	7,20	0,2	1,53	ns
	R	50	0,10±0,09	0,68	7,47			
Body weight of lambs at birth	B	100	3,83±0,05	0,50	13,05	0,15	2,14	*
	R	100	3,68±0,06	0,58	15,76			

B-Chubby

R-Rusty

From analysis of data refer to body weight comes out that in Chubby variety is registered light superiority for this character

given to Rusty variety ($47,10 \pm 0,71$ kg given to $46,08 \pm 0,67$ kg).

This character difference in favor of Chubby variety statistically is insignificant.

The values registered to measured samples' level for body weight frame among the values mentioned in specialty literature for this character (37-47 kg- *Dărăban S. 2006*).

The standard deviation and variation coefficient values denote existence of more increased variability in population for this feature, but situated in accepted limits.

The whiter height presents differences statistically very significant between the two varieties, being of 1.62 cm in favor of Chubby variety.

The literature presents for this character values comprised between 60.1 and 66.7 cm (*Dărăban S. 2006*).

The variance coefficient values show the existence of a good homogeneity for this character.

The croup height by values of the two studied varieties are situated on breed values, which after some authors are of 61.5-67.7 cm (*Tafta V., Mochnacs M., Parvulescu S.*).

The difference of 1.09 cm in favor of Chubby variety is statistically significant one.

From Table 1 results a significant difference (1.92 cm) between trunk length averages in the two varieties studied in Jucu, pointing out a greater variability of this feature in the Chubby variety ovine.

Comparing the obtained data with those ones from specialty literature comes out a light inferiority of the sheep bred in Jucu as concerns the trunk length (66-72 cm, *Tafta V., și colab.*).

As concerns the chest width and croup width comes out the existence of some mathematic differences between the two varieties, but statistically these one are insignificant. The variance and standard deviation coefficient indicate a good level of homogeneity in population for this character.

The average values of thorax depth in the two Tzigaie varieties are close. The difference of 0.4 cm statistically insignificant is in favor of Rusty variety.

The variability is greater, but in normal limits in Chubby variety.

The literature presents for this feature values comprised between 27.5 and 31.2 cm (*Tafta V., și colab.*).

The difference of 4.12 cm existent between thorax perimeter averages in the two varieties of study is very significant.

The variation coefficient presents close and normal values for the followed feature.

Comparative to specialty literature data (80-88 cm, *Tafta V.*), there comes out a superiority of Jucu population for the thorax perimeter.

The tibia perimeter in the two varieties does not present significant differences.

The body weight average at birth in the lambs from the two varieties is situated on the values presented by specialty literature. In Chubby variety the body weigh average at birth of lambs is of 3.83 kg, while in the Rusty variety is of 3.68 kg. The difference of 0.15 kg between the two analyzed categories is statistically significant.

We ascertain the existence of an increased variability level for this character, greater in Rusty variety (15.76%).

From the analysis done on main conformation and constitution features in the two varieties of Tzigaie, Chubby and Rusty ones, we ascertain that in majority of analyzed situations the Chubby variety presents superior values given to Rusty one.

The Chubby variety is characterized by more vigorous constitution as well by more accented values for height, body weight, croup height, trunk length and thorax perimeter given to Rusty variety.

CONCLUSIONS

1. From the realized study comes out that Chubby variety of Tzigaie breed presents superior values for conformation features, with one exception (thorax depth) given to Rusty variety.

2. The variability remarked for majority characters followed at Jucu population level permits organization of the genetic improvement activity of the force by selection work intensification.

3. The high potential of this breed and especially of Chubby variety indicates it as a good partner in crossing programs, which regard especially the meat production.

REFERENCES

Books

- [1] Dărăban St.: Tehnologia Creșterii ovinelor. Editura Risoprint, Cluj-Napoca, 2006.
- [2] Pădeanu I.: Tehnologia creșterii ovinelor și caprinelor. Editura Mirton, Timișoara, 2001.
- [3] Taftă V., Mochnacs M., Parvulescu S.: Tehnologia creșterii și exploatării ovinelor. Editura Ceres, București, 1973.