

## RESEARCH OF CARPATHIAN GOAT BREED PRODUCTIVE PERFORMANCE IN THE SOUTH –EASTERN PART OF THE COUNTRY

Vlad Iulian<sup>1</sup>, Maftei Marius<sup>1</sup>, Marmandiu Andrei<sup>1</sup>, Stanciu Mirela<sup>2</sup>

<sup>1</sup> Agronomical University of Bucharest, 59 Marasti Blvd., 7000, Romania

<sup>2</sup> “Lucian Blaga” University of Sibiu, Sibiu, Romania

vladiul@yahoo.com

### Abstract

*Carpathian goat breed presents a rather important share, namely of over 80% from the national livestock and take part together with sheep and cattle to the economy of the dairy production or to the covering of feed intake, being a breed without restrictions or quotas. The present work proposes itself to get familiar to the morpho-productive important traits which aim at the main productions, allowing the identification of some. Carpathian breed presents a very important variability of conformation for the analysed ecotypes, so that their size is comprised between 56 cm and 68 cm, with an average of 61,8 +/- 0,57 and between 58 cm and 71 cm with an average of 63,7 +/- 0,73. The same variability was also established for milk production, after the bimonthly check of the analyzed livestock, but medium production was rather good, namely of 325 litters with a content (of 3,6%fat, 3,4%protein) during a lactation period of 206 days in the farm from Dobrogea county and 360 litters (with a content of 3,5%fat, 3,3%protein) during a medium period in the first farm of Arges county, thus, one may differentiate gains in weight which demonstrate an intense growth during the first three months, namely of 111g/zi the first from AG, in the one from CT, the weight is of 117g/zi which coincides to the period after weaning, when the kids use both types of milk and vegetal feed types, fact which shows a satisfying production but which allows a series of organizing and technical measures in order to improve quality, respectively milk and dairy products hygiene. As a consequence of the effected analysis, it was acknowledged the necessity of an emergent application of an adequate selection programme in order to improve the performances, also for the mechanic milking.*

Key words : Carpathian goat, breed goats.

## 1. INTRODUCTION

The importance of milk production increase of the Carpathian breed, within the framework of an European market without restrictions for the production of this breed, demands the emergent adoption of some real selection measures. In the context of a sustainable agriculture, it is wrong to take this breed as unimportant from the economic point of view. From bio-economic reasons, it may be evaluated as a profit bringing species. [5]. Taking into account the European convergence and population change of occupations in the rural areas, who is generally disadvantaged not only by the economic side, goats breeding and exploitation, especially of the Carpathian breed, creates the premises of a sustainable agriculture development. [2]

The improvement of productive performances as well as of the breed adjustment to mechanical milking should be the main objectives of selection and amelioration programmes.

## 2. MODEL DESCRIPTION

The researched material comes from the farm owned by S.C. Cărcinovul s.r.l. from Topoloveni locality, Argeş county (50 females and 5 males) and from the farm owned by S.C. Mustafa Eli s.r.l. from Albeşti locality, Constanţa county (the test sample was represented by 45 females and 5 males), in order to emphasize productions, respectively differences between the two livestock. There were made body measurements (main somatometries), as well as the quantity and quality milk production determination by bimonthly check, in both farms. [1] This way, it was possible to emphasize the evolution of lactation curve and its length. In order to determine and emphasize the breeding process of goat youth, gravimetry was used, weighings being made at the time of parturition, then at three months old, at 9 months old, at 12 months old, this way, with the adults, being noticed individuals precocity in both farms, a very

important element by means of the minimum age of introduction in the reproduction farms.

## 2. RESULTS AND DISCUSSIONS

**Table 1. Body sizes for analyzed livestock (cm)**

Specification	Livestock in Arges county Cîrcinov Farm X±Sx, lim	Livestock in Dobrogea county Mustafaeli Farm X± Sx, lim
Height at the scruff	63,7±0,73 51-78	61,8±0,57 56-68
Oblique trunk length	73,8±1,1 64-81	74,6±1,9 66-82
Thorax depth	32,4±0,35 29-37	33,6±1,6 28-40
Chest width	18,6±0,2 16-20	18,5±0,7 16-22
Croupe width	18,2±0,2 15-19	18,4±0,3 16-20
Thorax perimeter	87,8±0,8 78-94	88,6±1,2 77-98
Shin perimeter	9,2±1,2 7,5-9,7	9,5±0,8 7,8-9,8

**Table 2. Monthly milk productions in the two farms (kg)**

Specification	Milk uantity in Cîrcinov farm (Kg)	Milk quantity in Mustafaeli farm (Kg)
March	16,2	19,2
April	57,6	59,4
May	115	106,4
June	59,5	55,6
July	50,5	43,5
August	32,6	21,3
September	22,8	16,8
October	4,8	3,2
TOTAL	360	325,4

The goats in the studied farms generally have the skin of white colour, in a percent of 42% in the first farm, respectively 44% fact which demonstrated that the skin colour is also associated, when making an empirical farm selection.

Size particularities presented in Table 1, determined by somatometry, which include size, oblique length of trunk, thorax and croup

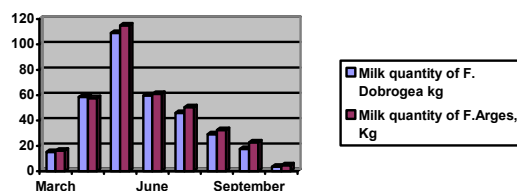
depth, shin and thorax perimeter, demonstrates a large variability but also a better election, at least according to size, thus, big livestock reach the superior limit within the breed.

The female reproductive youth reaches still from the 9 months old age the weight of 30,2 kg (72,2% of the adult weight), respectively 31,2 kg (70,2% of the adult weight), accomplishing the conditions for an early mating.

Adult females present a medium body mass of 41,8 kg, with limits comprised between 34-51 kg in the first farm, respectively 40,2 kg with limits comprised between 36,2-50,3 kg in the second farm.

The milk production, after the bimonthly check of the studied livestock reached a medium production of 325 liters (with 3,6% fat, 3,4% protein) during a lactation period of 206 days in the farm from Dobrogea county, and 360 liters (with 3,5% fat, 3,3 protein) during a medium period of 210 days in the first farm from Arges county.

If the table values mirror certain medium milk productions of females in the two farms, graphical representation shows a lactation curve, almost specific to the ameliorated goat breeds, the curve peak being present during the months with a full feed potential, phenomenon which demonstrates lactation preserving during a longer decay period, thus being stimulated by a feed meals percent assured by the farmers. Quality milk production



**Fig. 1. Graphic of monthly milk production on lactation (litters per head)**

changes, noticed in graphic no.1, justify the mentioned lactation stimulation.

Concerning the evolution of daily growth medium gain in the weight of kids at birth and till the age of one year, the values which I

found are presented in table 3. The way , it is acknowledged in the table data , the daily medium gain of the analysed goat youth is very varied, being slightly different in comparison with the values from the speciality literature , due to objective reasons, which will be explained in the following lines. Thus, during the first three months of life, after the parturition, the kids are more energetic in growth in comparison to the following months , and for a better valorization for meat products even from the first months they must be accustomed to other feedtoo, especially to fibrous , leguminous feed but also to protean feed.

During the period which follows weaning , due to the habit which was made still from the suckling period to the concentrated and fibrous afa-alfa meals, they may valorize in a better way meals and rhey may register higher gains. This way, we may speak of a stress damping after weaning, aspect which must be well known within the exploitation for the meat production and not only. Till the third month, the gain records an increase and then a slow decrease, as after nine months of age till one year old, this one to be reduced almost to half, reaching about 54 g/day.

**Table 3. Daily medium gain in comparison with the goat youth age (g/day)**

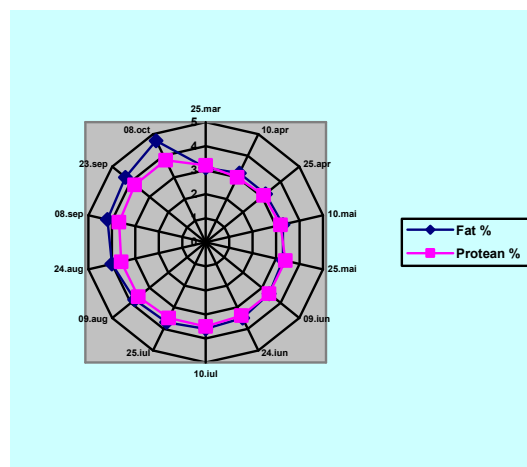
0-90 DAYS g/day	90- 270 days	270- 360 days	Adult Kg
111	96	54	42
117	92	51	40

Concerning the milk quality, samples ingathering for the quality analysis was done with all the checks, taking an average of 50 ml for each animal, only with the morning milking. The samples, which were gathered this way, were analysed oly for the two important quality parameters m, such as the fat and protein percent.

It was acknowledged that the average of fat percent during the whole lactation period is of 3,5%, and the one of the proteian percent is of 3,3%,in the Arges farm, and for the farm in

Constanta , these were of 3,6% fat and 3,4% protein, values which resemble to tjose in the speciality literature. [3,4.]

The two curves of bimonthly curves according to Cc method of the checking coefficient, for both farms, and for the two quality parameters respectively the two percents, fat and proteian, it was noticed that these ones observat are going on to grow( having a linear increase) since the lactation beginning towrds its , explainable fact as the milk quantity reduces step by step, but its content in dry matter increases , explainable phenomenon due to phenological evolutionary stage of feed.. (according to Fig.2.)



**Fig. 2 Quality changes of milk production throughout lactation**

Out of morphological and productive particularities analysis, it results that goat livestock from Circinov farm, Arges and Mustafa Eli farm, Constanta, represent ones of the most important living ecotypes of Carpathian breed, from the hilly southern area and from Dobrogea area, despite the rude geoclimatic conditions, aspect which demonstrates a rather good adjustment rate in the respective areas, in comparison with with other livestock at national level, but which demands numerous, emergent and organisatory measures.

### 3. CONCLUSIONS

Colour traits on the researched livestock emphasize the white colour predominance,

speckles of different nuances, and homocromy is ever often met (dark, blue reddish, black). Under the report of the body size, it presents a rather important variability, being close to Saanen breed in comparison to the other local breeds in South areas, (about 75-80 cm . [2,3].

The defective size is found in a proportion of 18%-20% (narrow chest, flat croupe), animals which have to be eliminated from the livestock. The udder presents a defective size in a rather large percent, with assymetrical mamelons, being the consequence of a shortage in an adequate selection.

**Table 4. The evolution of gain for the analysed goat youth**

Age Months	Sex	Parturitions kind	AG(n) farm	CT(n) farm	X+/- Sx F.AG/F.CT	Cv% F.AG/F.CT	Limits F.AG/F.CT
Parturiton type	Females	Simple	19	22	2,7+/-0,17 2,6+/-0,2	6,2 5,6	2,2-3,1 2,1-2,9
		Twin	14	15	2,3+/-0,38 2,2+/-0,25	3,2 2,6	1,7-2,8 1,5-2,7
	Males	Simple	10	14	3,1+/-0,2 3,2+/-0,4	3,30 2,8	2,6-3,5 2,4-3,8
		Twin	12	16	2,3+/-0,4 2,4+/-0,5	4,5 3,4	2,1-3,3 1,9-2,8
3	Females	-	25	28	12,8+/-0,2 13,2+/-0,4	6,2 3,4	11,1-14,2 11,7-17,1
9	Females	-	27	25	30,2+/-0,3 31,2+/-0,4	3,6 4,8	25,8-32,5 23-32,8
12	Females	-	26	23	35,1+/-0,28 34,5+/-0,5	4,1 3,5	30,3-38,1 29,5-37,8
Adult	Females	-	50	45	41,8+/-0,7 40,2/-0,3	5,7 4,6	33,5-51 36,2-50,3
	Males	-	5	5	53,1+/-0,6 55,4+/-0,2	6,6 2,4	45,5-60 46,2-61

The female reproduction youth reaches still since the age of nine months the weight 30,3 kg (72,8% from the adult weight), respectively 31,2 kg (77,6% from the adult weight), accomplishing the conditions for an early mating.

The mature females have a medium body weight of 41,8kg with limits comprised between 34 -51 in the first farm, respectively, 40,2kg with limits between 36-50 kg in the second farm , according to table no.3.

Also in this context, one may differentiate gains in weight which demonstrate an intense growth in the first three months, namely of 111g/zi the first from AG, in the one from CT, the weight is of 117g/zi which coincide to the period after weaning, when the kids use the both types of milk and vegetal feed types.

The milk production during the whole lactation of the researched livestock was of 325 litters with a lactation period of 206days in the farm from Dobrogea county and 360 litters and a length of 210 days in the first farm from the Arges county.

The researched livestock prolificity was of 139% in the first farm and 144%in the second farm, situated at the superior limit of the speciality literature. All these mentioned above demonstrate that it represents the breed which may allow a good profitableness of farms by a better selection and exploitation in the specialized farms.

They participate, together with the sheep o the economic development in the rural area even in the context of sustainable agriculture.

According to the elements studied before, it was acknowledged the necessity of an

emergent application of an adequate election programme in order to improve the productive performances for both productions, its symmetry and of the elimination of the encountered elements, as well as of the use of males belonging to the especially milk, respectively, the development of mammary gland, French Alpine breed, these ones being considered the best ameliorators for the females in this area.

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