



## Dependence of Birth Type on Live Weight and Body Dimensions in Black Korakola Lambs

**Ismailova Madina Mirzakulovna**

Basic doctoral student at the  
Scientific Research Institute of Cattle Breeding and Desert Ecology

**Klichev Zafar Safarovich**

Doctor of agricultural philosophy, senior researcher

### ABSTRACT

Мақолада табиий серпушт типдаги қора рангли қоракўл совлиқларидан олинган турли типда туғилган қўзиларнинг тирик вазни, тана ўлчамлари ҳамда тана тузилиш индекслари орасидаги фарқланишлар аниқланган ва бу бўйича хулосалар қилинган

In the article, the differences between the live weight, body size and body structure indices of lambs of different types, obtained from black-colored Karakol sheep of natural color type, were determined and conclusions were drawn.

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совлиқлар, қоракўл қўзилар, серпуштлик, якка туғилган, эгиз туғилган, тана ўлчамлари, тана тузилиш индекслар. ewes, black lambs, fertility, single born, twin born, body size, body composition indices.

**Introduction.** Cattle breeding is considered an important branch of animal husbandry, and the development of the sector provides an opportunity to produce cattle skins, sheep meat, wool and hides of the original color and variety and assortment through the rational use of desert and semi-desert regions of our country. Therefore, increasing the productivity of black-colored Karakol sheep and improving their genetic potential is of great scientific and practical importance.

The peculiarity of the climatic conditions of our republic, hot weather, the short vegetation period of pasture plants, high mineralization of water and other factors require a very sensitive scientific approach to the development of animal husbandry, strict adherence to zoo technical standards in the creation of new breeds of animals, improvement of genetic characteristics, care and feeding, and requires the introduction of innovative technologies.

Sheep farming is considered an important branch of animal husbandry developed in all regions of the world, and based on the efficient use of pastures in agriculture, it provides an opportunity to develop meat, wool, hides, leather, milk and other products.

Increasing the fertility of black-colored Karakol sheep through selection is one of the urgent tasks of the network. Therefore, it is of scientific and production importance to preserve the gene pool of Serpusht-type black-colored Karakol sheep created in desert conditions, and to increase their genetic potential.

The development of effective selection-technological methods of managing the natural fertility of black-colored Karakol sheep, the full use of the genetic potential of sheep with a valuable gene pool, and the study of the factors affecting natural fertility occupy an important place.

Information on the influence of the age of black-colored Karakol sheep on the rate of twinning is considered very important for practical purposes.

[3] in their data, they believe that it is important to take into account the age of the sovlis that are being fertilized during mating. They obtained more lambs by age, i.e. mating full-aged and old ewes with full-aged rams, full-aged ewes with young rams, and young ewes with middle and old rams.

[2] as a result of the studies on the influence of the age and live weight of the parents on the size of the lambs: lambs with high live weight and growth indicators were obtained from 3.5-4.5-year-old sheep; compared to the mating of a ram with a large (70 kg) live weight, with a ewes of a small live weight, the lambs obtained from the mating of a small (60 kg) ram with a large ewes have a higher live weight and body size at an older age, indicating that the influence of the mother on the body size of the animals is greater.

[6] researches on the large childhood of sheep belonging to different lines have been conducted and show that lambs with high live weight can be obtained from 3.5-4.5-year-old ewes and ewes with large live weight and body size.

[4] in their data, in order to increase sheep products, they considered that it is necessary to increase the number of sheep and studied the effect of live weight and age on the fertility of sheep. As the live weight of animals increases to a certain level, their fertility increases, further increase in live weight is associated with a decrease in fertility. The highest fertility rate (170.4%) was observed in calves with a live weight of 50.0-54.9 kg. The age-dependent ratio of mollusks is 146.0-168.0%, and the highest mollusk (168.0%) was observed in 4-year-old mollusks.

The quantity and quality of semen production of rams is strongly influenced by their feeding and storage conditions, and this issue is given great attention throughout the year, especially during the preparation and insemination period of rams for insemination. For this reason, it is required that the fatness level of breeding rams is not below average fatness level throughout the year.

**The purpose of the study.** Determining differences between live weight, body size and body composition indices of lambs born from different types of black-colored Karakol lambs.

**Description of the farm.** The results of this research are carried out in the limited liability company "Tutli Karakol Zamini" in Nurabad district of Samarkand region. This LLC is located in the territory of "Karnab Chol" and consists of gypsum desert pastures. Its climate is characterized by the annual precipitation not exceeding 100-200 mm, the maximum air temperature in summer +46-48 °C, and the minimum air temperature dropping down to -30 °C in winter. Gypsum deserts are located at an altitude of 140-500 m above sea level, with an average annual precipitation of 150-230 mm. The soil is a brown-gray soil, characterized by the presence of gypsum ( $\text{CaSO}_4 + 6\text{H}_2\text{O}$ ) layer on the surface (20-80 cm deep) in its composition of crystalline and amorphous gypsum.

**Research methods.** Live weight and body dimensions of lambs born of different types were carried out based on [1]. The outer appearance of experimental lambs was first visually assessed, and then measured using measuring devices, and body composition indices were calculated using methods generally accepted in zoo technics. The obtained digital data were subjected to primary biometric processing according to the method [5].

**Research results and their analysis.** The obtained results and data on body size and body indices of lambs according to birth type are presented in Table 1. The table data shows that the growth indicators of single-type and twin-type black lambs at birth were  $35.94 \pm 2.29$  cm in height of single-type lambs and  $30.60 \pm 6.13$  cm in twin-type lambs, the difference between the groups was 5.34 (  $P < 0.01$  ) cm or 17.5 percent significant difference was shown. The oblique length of the body of lambs of twin type was  $29.8 \pm 0.07$  cm and  $32.7 \pm 0.18$  cm of lambs of single type, the difference between groups was 2.9 cm (  $P < 0.01$  ) or 9.73%. Breast circumference was  $35.5 \pm 0.21$  cm in singleton lambs and  $32.5 \pm 0.20$  cm in twin lambs, the difference between groups was 3.0 cm (  $P < 0.01$  ) or 9.23%.

**Table 1**  
**Body sizes of black corakol lambs born of different types, cm**

| Indicators               | Unit of measure | Lambs born alone<br>n-50 |      | Lambs born with twins<br>n-67 |       |
|--------------------------|-----------------|--------------------------|------|-------------------------------|-------|
|                          |                 | M±m                      | Cv%  | M±m                           | Cv%   |
| The height of the rain   | cm              | 35,94±0,29               | 5,77 | 30,60±0,23                    | 6,13  |
| Slant length of the body | cm              | 32,70±0,18               | 3,95 | 29,8±0,07                     | 1,87  |
| Chest circumference      | cm              | 35,5±0,21                | 4,15 | 32,5±0,20                     | 5,14  |
| Chest depth              | cm              | 13,6±0,22                | 11,3 | 12,4±0,14                     | 9,26  |
| The circle of the train  | cm              | 5,99±0,02                | 2,61 | 5,03±0,10                     | 15,90 |
| Live weight              | kg              | 3,91±0,04                | 7,13 | 3,40±0,02                     | 5,94  |

Chest depth of lambs born with twins is 12.4±0.14cm, this indicator is 13.6±0.22cm in lambs born with single type, the difference between groups is 1.2cm (P<0.01) or 9.67% higher was observed to be.

The circumference of the litter was 5.99±0.02 cm in single lambs and 5.03±0.10 cm in twin lambs, the difference between them was 0.96 cm (P<0.01) or 19.0 percent.

A clear and universal indicator of the growth of agricultural animals in one or another period of ontogenesis is live weight. This important indicator is inextricably linked with the vital biological characteristics of animals, constitutional strength, health, durability, rapid maturity, and production characteristics - meat and wool productivity. The live weight of lambs born in the twin type in our study was 3.40±0.02 kg, while lambs born alone and it was 3.91±0.04 kg, the difference between them was 0.51 kg or 15 percent higher live weight in single type lambs.

Body composition indices of animals are important indicators in determining constitutional and productivity characteristics. The body composition indices of twin and single lambs in our research are summarized in Table 2.

**2-Table**  
**Body composition indices of lambs born in single and twin, %**

| Indicators | Single born lambs | Lambs born as twins |
|------------|-------------------|---------------------|
| Long legs  | 62,1              | 59,4                |
| Elongation | 90,9              | 97,3                |
| Fullness   | 108,6             | 109,0               |
| Bony       | 16,6              | 16,4                |

The table data shows that lambs born as a single type were 2.7% and 0.2% superior to their peers in terms of longest and bony index, respectively, while the length and fullness index was 6.4% and 0.4% higher in lambs born with twins.

It can be concluded from our research that there was almost no significant difference in body size and body structure indices in single and twin offspring of Serpusht type Karakol sheep. This is a more rational use of their sedated characteristics in the use of sedated type Karakol sheep, as well as planning future breeding work, it shows that carrying out selection works to improve fertility characteristics is of great importance in increasing productivity in farms.

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