DEPENDENCE OF MILK PRODUCTIVITY IN BLACK KARAKUL SHEEP ON PASTURE TYPES AND FATNESS LEVELS UNDER USTYURT PLATEAU CONDITIONS

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Annotation
This article identifies differences and presents conclusions regarding the dependence of milk productivity, an additional productivity indicator of black Karakul sheep in the Ustyurt plateau conditions, on pasture areas and the degree of fatness.

Keywords: Ustyurt Plateau, black-colored, Karakul sheep, milk productivity, pasture areas, degree of fatness.

Introduction

The milk productivity of Karakul sheep plays a crucial role in the viability of young lambs [1. P. 35-36], [2.P. 24-27].

The quantity and composition of sheep's milk depend on several factors and possess numerous beneficial properties and characteristics. According to [5.http://myfarm-online.ru], sheep milk protein is digested at a rate of 99,1% in the human body. Sheep's milk is highly nutritious, with an energy value of 102 kcal. This figure is considerably higher than the caloric content of cow's and goat's milk.

Sheep's milk, in terms of its composition, is distinguished from the milk of other farm animals by its higher protein and fat content, making it more suitable for cheese production and yielding a greater amount of cheese from the same volume of milk. Another important feature, according to [https://uz.wikipedia.org], is its high resistance to microbial growth in the initial period after milking due to specific immunological properties. Currently, they produce ayran, yogurt, and cottage cheese from local sheep's milk. Medical research has established that these products are highly beneficial for children and the elderly, possessing dietary, preventive, and therapeutic properties. These qualities contribute to the preservation and enhancement of human health.

Purpose of the study: To examine the milk productivity of black-coated Karakul sheep on the Ustyurt Plateau in relation to grazing territories and body condition.

The object of the study is black-coated Karakul sheep, grazing territories, and body condition. **The subject of the study** is the indicators of changes in milk productivity of black-coated Karakul sheep offspring depending on their body condition and grazing territories.

Research methods: The study employed standard zootechnical, biological, technological, and statistical analysis methods. The methods for determining "the arithmetic mean (X), its standard error (Sx), and the coefficient of variation (Cv) " according to N.A. Plokhinsky were used.

Research results. The pasture areas of the Ustyurt plateau are primarily suitable for karakul sheep breeding. Overall, the Ustyurt Plateau consists of the following pastureland areas: the deep plain area in the northern part of Ustyurt, the plain area located on the northern side of Ustyurt, the coastal area of the Aral Sea, the Baikhuduk area, the Kushbulak area, the central area of the Ustyurt plateau, the Daut Ata area, the Karabaur living area, the Central Middle Ustyurt depression area, and the Central Ustyurt plain area. These regions differ from each other in their unique climatic conditions and plant associations.

The aforementioned territories are mainly grouped into three main areas based on water availability, pasture productivity, and plant assortment. These are distributed as follows: the northern area of Ustyurt, the Aral Sea region, and the southern area of Ustyurt.

During our experimental work, the relationship between milk productivity, pasture types, and degree of fatness was determined based on the animals' constitution. The data obtained from this research is summarized in Table 1 below.

Table 1 Dependence of milk productivity on pasture types and degree of fatness

Pasturelands	Degree of obesity	Types of Constitutions		
		Rough, n=15	Sturdy, n=15	Delicate, n=15
		X± Sx		
The northern territory of Ustyurt	High	71,9±4,1*	67,2±3,6	64,2±3,1
	Medium	68,7±3,6	66,2±2,9*	63,1±3,5
	Below average	64,1±2,8	62,2±3,0	60,1±3,1*
Areas surrounding the Aral Sea	High	70,3±3,6*	66,1±3,3	63,4±3,5
	Medium	68,3±3,6	65,9±2,9	62,9±3,1
	Below average	63,7±2,7	62,0±3,0	59,7±3,6*
The southern territory of Ustyurt	High	72,4±3,1*	69,5±4,6	66,1±4,3
	Medium	70,6±5,6	67,1±3,3*	65,6±4,2
	Below average	65,3±3,6	64,4±3,7	61,7±3,8

*p<0,05

Analysis of the data presented in Table 1 indicates that milk productivity not only varies across pasture areas but also depends on the degree of sheep fatness.

In terms of milk productivity, sheep kept in the northern part of the Ustyurt Plateau occupied an intermediate position. From the obtained data, it can be noted that coarse-type sheep were distinguished by their relative resilience to the northern regions of the Ustyurt Plateau and their ability to maintain stable milk productivity. It has been proven that the milk productivity of Karakul sheep kept in the southern region of the Ustyurt Plateau is higher across all types due to relatively milder environmental factors.

Karakul sheep kept in the southern region of Ustyurt showed superiority over those kept in the Aral Sea region. The difference between constitutional types was 2,1 kg in coarse-type sheep with a high degree of fatness, 2,3 kg in sheep with medium fatness, and 2,4 kg in sheep with below-average fatness ($p<0,05$).

According to the chemical composition of milk, the quantity and composition of sheep's milk depend on several factors and possess many beneficial properties and characteristics. According to [5.http://myfarm-online.ru/ovcevodstvo], sheep milk protein is 99.1% digested in the human body. Sheep's milk is very nutritious, with an energy value of 102 kcal. This value is significantly higher than the calorie content of cow and goat milk.

Sheep's milk, compared to the milk of other farm animals, has a higher content of protein and fat in its composition, which makes it more suitable for cheese production and ensures a higher yield of cheese made from sheep's milk. Another important feature, according to data from [4.https://uz.wikipedia/w/index], is its high resistance to the proliferation of microorganisms in the initial periods after milking due to its specific immunological properties. Currently, ayran, yogurt, and cottage cheese are produced from local sheep milk. As established by medical research, these products are very beneficial for children and elderly people, possessing dietary, preventive, and therapeutic properties. These characteristics help to maintain and strengthen human health [3. http://bigenc.ru/agriculture].

The main goal of our study of milk composition is to ensure healthy growth of young lambs and to maximize the quantity and quality of milk. The data obtained on the chemical composition of milk by constitutional types are summarized in Table 2 below.

Table 2 Chemical composition of milk

Indicators	Unit	Types of Constitutions		
		Rough, n=5	Sturdy, n=5	Delicate, n=5
		X±Sx		
Water	%	81,9	81,1	80,6
Dry matter	%	18,1	18,9	19,4
Total density	kg/sm^3	1032	1034	1035
Fat	%	6,4	6,5	6,5
Protein	%	5,5	5,6	5,6
Lactose	%	4,4	4,4	4,5
Ash	%	1,0	0,9	0,8
Acidity	^0T	22,4	23,1	23,3

From the data presented in Table 2, it can be concluded that in terms of milk composition, as the sheep's constitution becomes coarser, the water content is somewhat higher in coarse-type sheep at 81.9%, which is 0.8% more compared to the strong type and 1.3% more compared to the fine type. Dry matter content was, correspondingly, 18.1%, 18.9%, and 19.4%. No significant difference (0.1%) was observed between constitution types in the amount of fat, protein, and lactose. The ash content in coarse-type sheep was 0.1-0.2% higher than in strong and fine-type sheep due to the higher water content.

In conclusion, it can be said that to a certain extent, the milk composition of sheep depends on their constitutional types, and the main dependency changes with their feeding process.

List of References

1. Gaziyev A., Fazilov T., Yusupov S. Characteristics of manifestation of certain breeding traits in black Karakul sheep. Journal of Zooveterinary. 2017. Issue 8. Pages 35-36. Zooveterinary Journal. 2017. Issue 8.
2. Ismailov M. Biological and organizational zootechnical factors for increasing the production of Karakul products. Journal of Agroilm. 2016. Issue 5. Pages 24-27.
3. http://bigenc.ru/agriculture
4. https://uz.wikipedia.org/w/index
5. http://myfarm-online.ru/ovcevodstvo