

## The Interaction of Wool Coat Length and Productivity in Karakul Sheeps

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**Abstract:** The article describes the role of wool in the animal body in the offspring of karakul sheep, the role of wool fiber length in the formation of wool productivity and the results of research on their differences.

**Keywords:** Karakul sheep, wool cover, spring wool, autumn wool, tivit cover, intermediate fiber, sword fiber.

**Relevance.** Wool is not only an environmentally friendly natural product, but also a means of protecting the animal organism from various external environmental influences (heat, cold, precipitation, etc.).

In karakul sheep wool production, its qualitative composition has been studied by different researchers at different times, depending on the color, variety, type of flower and constitution, as well as other characteristics of wool, its differences in quantity and quality.

Studies [1] have shown that it is possible to increase the quality of astrakhan products by 12.0-15.0% through targeted selection of astrakhan sheep in terms of silk fiber content, gloss, degree of pigmentation and length.

Similar data can be observed in studies [2]. In this regard, the research conducted in the farms "Jongeldi", "Konimekh" (sandy desert), "Mubarak" (gypsum desert) and "Gozgan" (foothills) 67.0-76.2% of long flowers, 46.4-55.1% of very strong flowers, 85.0-90.8% of flowers were found to have a parallel-concentric or parallel correct depiction, as appropriate.

In particular, in [3] has been conducted research to study the degree of correlation of wool-fiber length of newborn lambs with other traits, which is an important selection trait.

The study [4] examined the genetic coefficients of wool productivity and wool length of Polish merino sheep in independent levels of selection and selection index methods, and found that this indicator did not differ significantly from the mentioned methods (0.120 and 0.132 for wool productivity; 0.083 and 0.093 for wool length).

**Research source and method.** The researches were carried out on purebred red karakul sheep of "Kyzylkum" plant type, bred in "Sahoba ota karakul nasl" LLC, Nurabad district, Samarkand region.

To carry out the research, control groups consisting of 30 heads of red sheep belonging to the factory type and 30 heads of black sheep were formed.

From the wool-fiber coverage of sheep in the experiments, the amount of shearing was studied by weighing the amount of individual wool on a spring scale, measuring the length in millimeters.

The data obtained in the experiment were processed by variational statistical methods and it was determined that the arithmetic mean of the signs [5] and [6] is ( $\bar{X}$ ), its mistake ( $S_{\bar{x}}$ ), coefficient of variability is ( $C_v$ ), reliability criteria of differentiation is (td) and thresholds are (P).

Research results. Most studies have found that wool-fiber lengths vary in size depending on the color of the lambs. This figure extends from black to light variations of color and is characterized by the longest indicator in white.

Based on these considerations, the study examined the length of spring (12–13 months) and autumn (17–18 months) wool cover in the offspring obtained from experimental sheep. The data obtained are summarized in Table 1.

**Table 1: Length of sheep wool cover, cm**

Indicators		Groups	
		Experiment (sur) (n=30)	Control (black) (n=30)
<b>Spring wool</b>			
Overall	$\bar{X} \pm S_{\bar{x}}$	15,6±0,27 <sup>x</sup>	14,9±0,23
	C <sub>v</sub>	9,48	8,46
Tivit cover	$\bar{X} \pm S_{\bar{x}}$	5,6±0,09 <sup>x</sup>	5,2±0,11
	C <sub>v</sub>	8,81	11,59
<b>Fall wool</b>			
Overall	$\bar{X} \pm S_{\bar{x}}$	9,4±0,15	9,1±0,17
	C <sub>v</sub>	8,75	10,24
Tivit cover	$\bar{X} \pm S_{\bar{x}}$	4,2±0,07 <sup>x</sup>	3,8±0,09
	C <sub>v</sub>	9,13	12,98

Note: x-P<0,05;

The length of the wool cover plays an important role in the formation of wool productivity in sheep. The results of most studies show that spring wool shearing is higher than autumn wool shearing, which is inextricably linked to the density as well as the length of the wool cover. Studies have confirmed this condition, i.e., in both groups, the length of spring wool was found to be significantly longer (P<0.001) than the length of autumn wool (6.2 and 5.8 cm, respectively).

The results of the study show that the total length of the red sheep wool cover in the experimental group is statistically reliable (P<0.05) longer than the black sheep wool cover in the spring and autumn shears, which can also be observed along the length of the tivit cover. In this area of research, the wool productivity of experimental sheep was studied (Table 2).

**Table 2: Wool productivity of sheep, gr**

Indicators		Groups	
		Experiment (sur) (n=30)	Control (black) (n=30)
<b>Spring wool</b>	$\bar{X} \pm S_{\bar{x}}$	1062,8±21,8 <sup>x</sup>	992,4±20,9
	C <sub>v</sub>	11,24	11,54
<b>Fall wool</b>	$\bar{X} \pm S_{\bar{x}}$	836,8±18,4	807,4±18,2
	C <sub>v</sub>	12,053	12,35
<b>Annual (total)</b>	$\bar{X} \pm S_{\bar{x}}$	1899,6±36,6 <sup>x</sup>	1799,8±34,9
	C <sub>v</sub>	10,56	10,63

Note: x-P<0,05;

Based on the data obtained, it was found that the wool yield of sur sheep in both periods was higher than the wool yield of black sheep, one of the main reasons being the significant differences observed in the length of their wool cover. If the average spring wool yield of black sheep was 992.4 ± 20.9 grams, this figure was

significantly higher in red sheep, equal to 1062.8 ± 20.9 grams (P<0.001).

The autumn shearing results and the overall annual index also show a certain degree of superiority of sur-colored sheep in terms of wool productivity over black sheep. It was found that the advantage is 29.4 grams

per 1 head of sheep in the autumn yield, and 99.8 (P<0.05) grams in the annual yield.

Analysis of the coefficient of variability of the indicators shows that in black sheep the potential for spring wool tivit layer is higher in length. This situation can be explained by their high variability (Cv-11.59; 10.24; and 12.98), which indicates the possibility of increasing the wool productivity of sheep of this color.

**Conclusion.** According to the results of research on the biological and productivity of karakul sheep, it can be concluded that the Kyzylkum plant-type sur karakul sheep have a significant advantage over black sheep in terms of wool fiber length and wool productivity. This advantage is 99.8 grams (P<0.001) in terms of wool productivity and 0.7 cm (P<0.005) in length of wool fibers, which serves as a scientific and practical basis for increasing their wool productivity.

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