IJDPP
International Journal of Development and Public Policy
| e-ISSN: 2792-3991 | www.openaccessjournals.eu | Volume: 1 Issue: 5

Qualitative Indicators of the Wool Cover of Black Sheep in a Sandy Desert with Targeted Selection

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Annotation: The article presents the results of a study of qualitative indicators, such as curl length and curl density of black karakul sheep in a sandy desert.

Keywords: karakul, karakul pelts, curl length, curl density.

Actuality of the topic. In the Republic, desert and semi-desert regions occupy 20.0 million hectares. These regions are characterized by extreme conditions, a harsh continental climate, and a rather meager yield of pastures. The efficient use of these regions is the astrakhan breeding industry, which is based on the Karakul breed of sheep, which is of global importance and produces valuable karakul pelts of various colors, colors, curl types and assortments. The genetic potential of the breed for the aforementioned characteristics is very high. At the same time, it is important to increase the economic power of the industry, the effective use of this potential in identifying valuable features and enhancing their degree of manifestation.

Object and research methods. The research was carried out on black karakul sheep in the Jongeldi breeding plant in Bukhara region. The evaluation of the offspring was carried out on the basis of "Evaluation of lambs and breeding in karakul breeding" (Tashkent, 2015).

Research results. Curly types of offspring. The formation of this trait is determined by the presence of curls on the skins of lambs characteristic of their type and is considered a hereditary feature that changes under the influence of external factors.

The results of the study of this trait show that, in the yield of valuable curl types, in comparison with the mass selection of sheep, noticeably high indicators can be achieved (table-1).

Table 1: The degree of manifestation of curl types in offspring

Selection options		Number of sheep, head	Received lambs, head.	Curl type of offspring,% ($\bar{X}\pm S\bar{x}$)		
♂	♀			Semicircular	Ribbed	Flat
Semicircular	Semicircular	230	172	63,4±3,67	19,2±3,00	9,8±2,27
Ribbed	Ribbed	168	139	18,7±3,31	71,9±3,81	5,1±1,87
Flat	Flat	150	114	23,7±3,98	8,7±2,64	62,3±4,54
Ribbed	Caucasian	110	83	25,3±4,77	31,3±5,09	21,7±4,52

In studies with mass selection, the yield in the offspring of jacket-type lambs was 46.1 ± 4.61 percent, then this indicator under the conditions of targeted selection was 63.4 ± 3.67 percent (P <0.001), and under the condition of taking into account hair pigmentation 67 .4 ± 4.08 percent (P <0.001).

Curl length. The presence of long curls increases the value of sheep and astrakhan products. The research results showed that the highest level of manifestation of this indicator is observed with the variants of the selection "ribbed x ribbed" and "flat x flat" (table-2).

ISSN 2792-3991 (online), Published under Volume: 1 Issue: 5 in October -2021

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Table 2: Length of curls in offspring

Selection options		Lambs included, head.	Curl length, mm,			
♂	♀		($\bar{X}$±S$\bar{x}$)	C_v	With increased hair pigmentation	
					($\bar{X}$±S$\bar{x}$)	C_v
Semicircular	Semicircular	172	41,3±0,33x)	10,48	43,4±0,34x)	10,27
Ribbed	Ribbed	139	79,6±0,74x)	10,96	84,6±0,79x)	12,25
Flat	Flat	114	63,8±0,02x)	10,38	67,6±0,60x)	9,48
Ribbed	Caucasian	83	16,2±0,20	11,25	18,3±0,22	10,95

x – P < 0,05; x) – P < 0,001

In these variants of the selection, the length of the curls was 79.6 ± 0.74 and 63.8 ± 0.02 millimeters, respectively, the lowest indicator was observed with the variant of the selection "ribbed x Caucasian" (16.2 ± 0.20 mm), the resulting offspring in the variant of “jacket x jacket” selection, it occupied an intermediate position (41.3 ± 0.33 mm).

Curl density. Research has been carried out in the direction of studying the features of the manifestation of the density of curls in the offspring during the purposeful selection of sheep. The data obtained are summarized in table-3.

Таблица-3: Распределение потомства по плотности завитка

Selection options		Number of sheep, head	Received lambs, head.	Curl density of offspring,% ($\bar{X}$±S$\bar{x}$)		
♂	♀			very dense	dense	insufficient
Semicircular	Semicircular	230	172	31,4±3,54x)	52,9±3,81x)	9,3±2.21x)
Ribbed	Ribbed	168	139	44,6±4,22x)	44,6±4,22	6,5±2.09x)
Flat	Flat	150	114	36,0±4,50x)	48,1±4,68	8,9±2.67x)
Ribbed	Caucasian	110	83	10,8±3,40	31,4±5,09	38,5±5.34

x – P < 0,05; x) – P < 0,001

From the data in the table, it can be seen that with targeted selection compared to mass selection, the presence on the skins of lambs of the specific gravity of very dense curls, depending on the selection options, increases markedly, and the specific gravity of insufficiently dense and loose curls is noticeably reduced.

If, with the first three variants of selection, the specific gravity of very dense and dense curls reached 84.3-89.2 percent, then when taking into account the pigmentation of the hairline, it is possible to bring this indicator to 93.5 ± 2.09 percent, which should be taken into account in the breeding process ...

Conclusions. Homogeneous selection of sheep in the variants "ribbed x ribbed" and "flat x flat" provides a noticeable increase in the yield of lambs with long curls in their offspring (57.6 ± 4.19 and 45.6 ± 4.66%, respectively). This indicator in the variant of selection "jacket x jacket" was 36.6 ± 3.67 percent. The average curl characteristic of the breed and considered valuable was higher in the variant of selection of sheep "jacket x jacket" (75.0 ± 3.30%), in the other three variants of selection, the yield of medium curl offspring decreases to a certain extent (by 6.0-9.0%).

ISSN 2792-3991 (online), Published under Volume: 1 Issue: 5 in October -2021

With targeted selection of sheep, in comparison with mass selection on the area of offspring skins, the specific gravity of dense curls, depending on the mating options, increases markedly, and the specific gravity of insufficiently dense and loose curls is noticeably reduced. The specific gravity of the yield of lambs with very dense and dense curls, depending on the selection options, reaches 84.3-89.2 percent; in conditions of increased hair pigmentation, it is possible to bring this indicator to 93.5 ± 2.09 percent.

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ISSN 2792-3991 (online), Published under Volume: 1 Issue: 5 in October -2021