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**QUALITY OF BLACK KARAKUL SHEEP POSTERITY DEPENDING
ON THE SIZES OF A CURL IN CONDITIONS OF PRIARALYA**

Abstract . In our studies, the histomorphological structure of the skin and hair of Karakul lambs Surkhandarya Sour bronze scheme colors. Skin - one of the interior features that determine the Constitution of the animal, its condition and productivity. During the period of histological development of the skin of Karakul sheep and embryonic development of the fetus, the relationship between the process of formation of the skin and the formation of wool in this embryonic period was noted. The skin newborn lambs provides commercial value, the strength and fortress of Karakul pelt. In this connection, we have studied some regularities of the histomorphological structure of the skin and hair of lambs of Surkhandarya intrabreed type of color sour bronze scheme colors.

It was found that the highest yield of lambs of jacket type and the specific weight of the elite class is observed from the mating of medium-sized parents, respectively (78.2% and 38.6%), which exceed the analogues of small and large-sized parent pairs by a significant amount, respectively ($P<0.01$; $P<0.001$).

Key words: Karakul lambs, wool morphology, skin morphology, histomorphology

Selection of karakul sheep on astrakhan types gains the increasing value. Astrakhan type if it to consider as a sign, is set of smaller, and discrete signs. Each such discrete sign can obviously, be inherited or is independent, or is linked to other signs making type of astrakhan fur. Unlike simple signs, such as coloring of wool and which inheritance is provided with action of one or several genes pairs, difficult signs what the astrakhan type is, are inherited polygene, i.e. when pairing for example: jacket astrakhan type it turns out jacket, ridge, flat, caucasian astrakhan types, and also intermediate types jacket-ridge, ridge and flat etc.

I.N.Dyachkov (1980) writes that homogeneous selection of jacket parents gives 50-75% of jacket posterity, flat 20-50%, ridge-30-50% and the caucasian-30-60% of the caucasian posterity and considers that astrakhan types are inherited highly. And diverse selection between these types gives from 30,9% to 55,9% of jacket posterity [1].

Estimating of ram-producers T.Umurzakov (1992) writes that a ram №726 which posterity was characterized by a big variety on type and other signs of astrakhan fur, differs an issue class highness from 96% to 97,6%. On the contrary the ram №717 who had homogeneous posterity has very low class from 85,3% to 85,7%. From it less elite lambs, than from a ram №726 are received almost three times [2].

U.Manatov (1984) writes that the maximum number of high quality lambs is possible for receiving when using ram-producers both middle curl, and small curl a class elite (all jacket 58-64%, including elite 13-16%) and first class – 50-68% [3].

In selection of karakul sheep the method of selection and selection for astrakhan types is introduced. However, despite known efficiency from application of this method the plateau in selection for a long time is reached and further effort appear ineffective (Yu.M.Altukhov, 1989) [4].

Therefore, it is necessary to improve methods and selection receptions constantly. And, though, tastes change over time, jacket type within seventy years, in unanimous opinion of scientists in the field of karakul breeding it is considered one of the most valuable and pedigree signs.

The main pedigree type – black karakul sheep in the course of specialization in efficiency are subdivided into three groups: jacket, ridge and flat, except them there is still the caucasian type with a retall hair cover, as undesirable, subject to reduction in breed.

«The astrakhan type is a result of a combination qualitative (silkeness, shine of a scalp, type of drawing, etc.) and quantitative (length and width of a curl, length of a hair, etc.) signs on all area of a skin and, to receive desirable astrakhan fur it is necessary to aspire to an optimum level of development of separate signs and their compatibility» (N.A.Sarsenbayev, 1997) [5, 6].

Data on inheritance of jacket astrakhan type in pedigree farm "Bayzak" depending on the size of a curl are provided in table 1.

Table 1 – Inheritance of jacket karakul type at the homogeneous selection in depending from curl sizes

Type of selection	n	Karakul types, M±m			
		jacket	ridge	flat	caucasian
Small x small	266	74,8±2,67	14,4±2,16	3,0±1,05	7,8±1,65
Middle x middle	280	78,2±2,47	7,2±1,54	2,5±0,99	12,1±1,95
Coarse x coarse	268	75,4±2,64	5,4±1,38	1,1±0,89	18,1±2,97

The analysis of the table shows that from homogeneous selection for the size of a curl of jacket astrakhan type, specific weight of lambs of the type made from 74,8% to 79,5%. The greatest output is observed from pairing of middle curl parents (78,2±2,47%) in comparison with small and coarse curl parents, but these distinctions are authentic ($P < 0,05$).

From small curl parents it is received the greatest number of lambs of ridge astrakhan type (14,4±2,16%) is authentic. It, apparently, speaks that lambs of jacket type with in the narrow size of a curl are characterized semicircular average and long small valyek alternately with narrow grivka that often meet among lambs of ridge astrakhan type or grade skins the ridge thin-1.

Data on inheritance of jacket astrakhan type depending on the size of a curl at diverse type of selection are provided in table 2.

Table 2 – Inheritance of jacket karakul type at the heterogeneous selection

Type of selection	n	Karakul types, M±m			
		jacket	ridge	flat	caucasian
Small x middle	123	72,4±4,05	16,8±3,38	2,0±1,30	8,8±2,56
Smallx coarse	124	75,8 ±3,80	14,5±3,17	1,7±1,17	8,0±2,45
Middle x small	116	72,4 ±4,17	12,0±3,03	3,1±2,45	12,5±3,08
Middle x coarse	112	75,0±4,11	9,3±2,76	2,7±1,54	13,0±3,19
Coarse x small	118	78,0±3,83	5,1±2,03	1,6±1,16	15,3±3,32
Coarse x middle	122	72,1±4,08	7,9±2,49	4,9±1,96	16,1±3,34

This table show that diverse type of selection of animals with jacket astrakhan type for itself posterity from 72,1 to 78,0%. However it should be noted that the greatest output of lambs jacket type from 75,8 to 78,0% is received from pairing of animals "extreme" (small x coarse and coarse x small) selection types.

One of the important indicators characterizing quality of an issue is the class highness of lambs.

Class highness of lambs depending on selection homogeneous options for the size of a curl are provided in table 3.

From the table it is visible that the cool structure of an issue has a various ratio depending on type of parents selection. The same ram-producers on one group of ewes give more high quality issue, and on others it is less. It once again confirms that karakul breed genetically polymorph and is characterized by heterozygot on hereditary inclinations.

Table 3 – Class highness of lambs from homogeneous types pairing on the curl size, %

Type of selection	n	Karakul types, M±m			
		jacket	ridge	flat	caucasian
Small x small	266	30,1±2,82	59,9±3,01	90,0±1,84	10,0±1,84
Middle x middle	280	38,6±2,91	46,6±2,99	85,2±2,13	14,8±2,13
Coarse x coarse	268	21,2±2,50	58,5±30,2	79,7±2,46	20,3±2,46

Homogeneous selection shows that the greatest specific weight of lambs of a class elite 38,6±2,91% is observed in the posterity, received from middle curl parents and authentically surpass analogs from small and coarse curl parental pairs, respectively from 85% to 17,4% ($P < 0,01$ $P < 0,001$). This results from the fact that the economy specializes on the average size of a curl. And output of lambs of a class elite of the coarse size of a curl (21,2±2,50%) we consider as quite high indicator as it was entered into «The instruction on exterior valuing of karakul lambs» only in 1996.

Results of a lambs class highness depending on diverse selection and live weight at the birth which it is provided in table 4.

Table 4 – Class highness of lambs from heterogeneous selection in depending from live weight, %

Type of selection	n	Karakul types, M±m			
		jacket	ridge	flat	caucasian
Small x middle	123	14,6±3,20	76,5±3,84	91,1±2,58	8,9±2,58
Small x coarse	124	21,0±3,67	67,7±4,22	88,7±2,85	11,3±2,85
Middle x small	116	15,5±2,99	71,6±4,21	87,1±3,13	12,9±3,13
Middle x coarse	112	14,2±3,31	7,06±4,31	84,8±3,41	15,2±3,41
Coarse x small	118	25,4±4,02	56,0±4,59	81,4±3,60	18,6±3,60
Coarse x middle	122	12,3±2,99	59,7±4,46	72,0±4,08	28,0±4,08

The analysis of the table shows that at diverse types of selection the greatest number of a high quality issue of a class elite, is received from "extreme" (Small x Coarse and Coarse x Small) selection types, respectively (21,0±3,67%) and (25,4±4,02%) which authentically surpass analogs from other types of selection, respectively from 5,5% to 13,1% ($P < 0,01$; $P < 0,001$) that promotes increase of specific weight of lambs of a class elite.

Thus, the obtained data once again confirm that karakul breed of sheep genetically polymorphic is characterized by heterozygote on hereditary inclinations and that any population in sense of statistical distribution on any signs (Sarsenbayev N. A., 1980) [6]. has early, middle population and late population parts, and that when crossing the individuals, relating to extreme parts, it is possible to expect in posterity more individuals with a middle population phenotype and, on the contrary, when crossing with a middle population phenotype, splittings of phenotypes in posterity.

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АРАЛ Өңірі жағдайында бұйралаудың мөлшеріне байланысты ҚАРАҚАРАКӨЛ ҚОЙЛАР ҰРПАҚТАРЫНЫҢ САПАСЫ

Аннотация. Біздің зерттеулеріміз қаракөл қойлары сұлбасының қаракөл қозының терісі мен бұйралануының гистоморфологиялық құрылымы зерттелді. Қаракөл қойлары конституциясы, оның жағдайы мен өнімділігін анықтайтын ішкі ерекшеліктердің бірі. Қаракөл қойлары терісінің гистологиялық дамуы және ұрықтың эмбрионалды дамуы кезеңінде терінің қалыптасу процесі мен осы эмбрионалды кезеңде жүнді қалыптастыру арасындағы өзара байланыс белгіленген. Жаңа туған қаракөл терісінің тауарлық құндылығын,

беріктігін және бұйралығын қамтамасыз етеді. Осыған байланысты біз тері мен жүннің бұйралығын құрылысының кейбір заңдылықтарын қара қаракөл қойлары ішіндегі тұқымдастардың бұйралық сапасы зерттеген болатын.

Жакет типтес қозылардың ең көп шығуы және элита класының үлес салмағы орташазавиттік ата-аналардың булануынан (78,2% және 38,6%) байқалады, олар ұқсас ұсак және ірі-зауыттық ата-аналардан тиісінше ($P<0,01$; $P<0,001$) нақты шамаға асып түседі.

Түйін сөздер: Қаракөл қозылары, жүн морфологиясы, тері морфологиясы, гистоморфология.

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КАЧЕСТВО ПОТОМСТВА ЧЕРНЫХ КАРАКУЛЕВЫХ ОВЕЦ В ЗАВИСИМОСТИ ОТ РАЗМЕРОВ ЗАВИТКА В УСЛОВИЯХ ПРИАРАЛЬЯ

Аннотация. В наших исследованиях были изучены гистоморфологические структуры шкурки и завивки каракулевого ягненка черных каракулевых овцематок. Конституция каракульских овец, одна из внутренних особенностей, определяющих его состояние и продуктивности. В период гистологического развития кожи каракульских овец и эмбрионального развития плода установлена взаимосвязь между процессом формирования кожи и формированием шерсти в данном эмбриональном периоде. Обеспечивает товарную ценность, прочность и локонность каракулевых шкурок. В связи с этим мы изучили некоторые закономерности построения кудрявых волос и шерсти, в которых были изучены кудрявые качества семейства из черных каракулевых овцематок.

Установлено, что наибольший выход ягнят жакетного типа и удельный вес класса элита наблюдается от спаривания среднезавитковых родителей соответственно (78,2% и 38,6%), которые превосходят аналогов от мелко и крупнозавитковых родительских пар на достоверную величину соответственно ($P<0,01$; $P<0,001$).

Ключевые слова: каракульские ягнята, морфология шерсти, кожная морфология, гистоморфология

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REFERENCES

- [1] Dyachkov I.N. Breeding matter in karakul sheep breeding. – Tashkent, 1980-164 pages.
- [2] Umurzakov T.U. Variability of signs and selection of karakul sheep – Almaty, 1992 – 297p.
- [3] Manatov U. Features of karakul sheep of jacket type and their use in selection in Kyzylkum conditions // Author's abstract of the candidate dissertation – Tashkent, 1984 – 19p.
- [4] Altukhov Yu.P. Genetic processes in population – M, 1989 – 281p.
- [5] Sarsenbayev N.A. Selection and genetic methods of zadaryinsky type black karakul sheep improvement. // The brochure – Shymkent, 1997-12p.
- [6] Sarsenbayev N. A. Astrakhan drawing and genetic features of karakul lambs carried to morphologically "averages" and "extreme" types. // the Author's abstract of the candidate sciences dissertation – M, 1980-20p.
- [7] Bekenov D.M., Spanov A.A., Kenchinbayev N.S., Baimukanov A.D. Updating the treatment method of the follicular ovarian cysts in cows of the dairy productivity direction in the East-Kazakhstan region // News of the National academy of sciences of the Republic of Kazakhstan. Series of agricultural sciences ISSN 2224-526X Volume 5, Number 53 (2019), 83 – 87 <https://doi.org/10.32014/2019.2224-526X.64>

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