

## STUDY OF THE QUALITY OF PELT AT LAMBS OF MOLDOVAN KARAKUL TYPE

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### Abstract

The main indexes after which are appreciated the pelts obtained from the lambs of the karakul breed are: ranking, type of loop, silk and gloss. The testing of the pelt qualities was carried out at the breed farm of TES "Maximovca" during the years 2015-2018 depending on the color of the lambs - black, grey and sur. It was determined that the share of ewe lambs constituted 31.1% in the reference period, the I- st class was 59.3%, and the II-nd and rebut, respectively, 8.8 and 0.8%. These lambs have the desired loop types such as 38.4% flat type, 33.3% jacket type, 24.2% costal type.

The evaluation of silk has shown that it is veridical greater at grey lambs compared to black lambs and is  $7.84 \pm 0.13$  points ( $P > 0.001$ ). Likewise, lambs of the sur color veridical exceed the black ones, making  $7.64 \pm 0.07$  points ( $P > 0.001$ ). Black lambs gained  $6.99 \pm 0.13$  points. The gloss of the furring cover at grey lambs veridical exceeds the gloss of black and sur lambs constituting of  $7.78 \pm 0.14$  points ( $P > 0.001$ ), and those sur and black respectively  $7.3 \pm 0.11$  and  $7.2 \pm 0.13$  points.

**Key words:** lambs, grey, sur, black, silk, gloss

### INTRODUCTION

The wide variety of colors and colorations at the Karakul lambs favored the study and determination of the efficiency of reproduction of the requested and economically advantageous variants. The profitability of the breeding of lambs is in direct correlation with the productive indices such as the classification, the type of buckling, the silkiness, the gloss etc. of the furring cover. Although, at present, the realization of skins obtained from the Karakul breed has decreased, but their quality has a great influence on the marketing price.

In the Middle and Central Asian countries the works of selection related to the karakul breed resulted in the creation of about 30 new types depending on the color, coloration, type of curl, production, etc. [1,3,5]. These types of sheep are performing and have high productivity. They maintain the variety of the genetic material of this breed and represent a

basis for new research and achievements in the process of selection, improvement and further development according to the social requirements and the manufacturing industry. The tendency of demining, on the commercialization market, of the value of the main production of sheep of this breed is also felt in the countries with centuries-old traditions of growth. In parallel with a quality pelt, the aim is to increase milk production and to create sheep with good fattening qualities. This will allow the keeping of sheep on their growing and breeding territories. World statistical data tell us about the tendency to increase milk and meat production at sheep of different breeds, including those specialized on these types of production.

The research carried out had the purpose of determining the qualities of pelt in dependence of qualitative indices of lambs of different colors and determining the priority direction in the works of selection, improvement and obtaining competitive production.

The study was carried out at farm of TES "Maximovca" on a flock of sheep of Moldovan Karakul type.

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**MATERIAL AND METHODS**

The appraisal of the skin qualities were carried out during the years 2015-2018 according to the instruction of assessment [2] at the age of 1-2 days after birth. The qualitative characters (silkeness, gloss) were appreciated with points after the decimal system. The mounting pairings were performed according to the schemes elaborated with the consideration of the color, the origin, the type of looping. Data processing was performed according to the biometric processing program, and the certainty of the data was assessed according to the Student criterion [4].

**RESULTS AND DISCUSSIONS**

Following the testing of the lambs at assessment, their ranking was determined (tab. 1). It was found that during the period 2015-2018 396 lambs were obtained, of which 132 were black, 130 grey and 134 sur.

As we see the lots of lambs in color dependence are practically equal. The share of the elite class lambs during the reference period in total on the herd constituted 31.1%, which constitutes a flock of 123 lambs. The lambs of class I represent a maximum weight of 59.3% and those of class II respectively 8.8%. In the lots by color, the share of elite lambs at grey and sur lambs constitutes 32.3 and 32.1%, and at black lambs only 28.8%. The share of I- class lambs ranges from 56.9% at grey to 60.6% at black. According to the obtained data, we can see that the share of the required ranking lambs (elite and class I) at this farm constitutes 90.4%, which represents a sufficient index.

If we analyze the classification of the lambs in dynamics we observe that the weight of the elite lambs fluctuates during the reference period in limits from 28.4 to 34.4% (Fig. 1). The share of I-class lambs ranges from 56.5 to 64.2%, and the II-class lambs represent from 7.4 to 12.6%.

Table 1 Ranking of lambs for assessment for the years 2015-2018

Specification	n	Elite		Class I		Class II		Jetsam	
		head	%	head	%	head	%	head	%
Black	132	38	28.8	80	60.6	12	9.1	2	1.5
Grey	130	42	32.3	74	56.9	14	10.8	-	-
Sur	134	43	32.1	81	60.4	9	6.7	1	0.7
<b>Total 2015-2018</b>	<b>396</b>	<b>123</b>	<b>31.1</b>	<b>235</b>	<b>59.3</b>	<b>35</b>	<b>8.8</b>	<b>3</b>	<b>0.8</b>

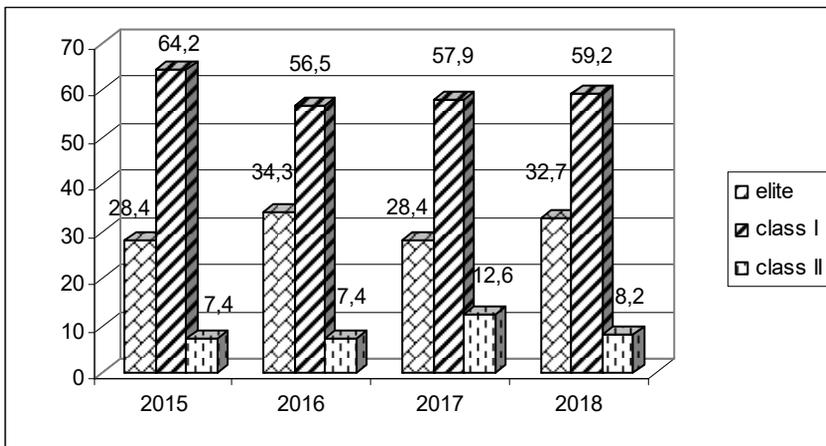


Fig. 1 Lambs ranking in dynamics

Appreciation of the type of looping at these lambs has shown that they possess most of the required types (tab. 2).

According to the data presented, we observe that during the reference period (2015-2018) the maximum weight of 38.4% (152 heads) is represented at lambs with flat loop type. They are followed by those with jacket loop with a weight of 33.3% (132 heads), and lambs with the type of coastal loop constitute 24.2% (96 heads). The lambs with the type of kaukazian looping obtained a weight of only 3.3% (13 heads). In the lots by color we observe that the lambs of the sur color in the vast majority possessed the type

of flat loop with a weight of 47.8%. The lambs of the classic black color and type of flat loop made up 39.4%. The smallest share of lambs with a flat-loop type represents those of grey with only 27.7%. The maximum weight of the lambs with the type of jacket loop is represented by the black ones with an index of 36.8%. They are followed by the grey with a weight of 33.8%, and the lambs of the sur color represent 29.9%. The maximum weight of lambs with type of costal loop is represented by those grey with a weight of 34.6%, and the black and sur lambs of costal type constitute 19.7 and 18.7% respectively.

Table 2 Type of loop of lambs at assessment for the years 2015-2018

Specification	n	Jachet		Costal		Plat		Kaukazian	
		head	%	head	%	head	%	head	%
Black	132	48	36.8	26	19.7	52	39.4	5	3.8
Grey	130	44	33.8	45	34.6	36	27.7	5	3.8
Sur	134	40	29.9	25	18.7	64	47.8	3	2.2
<b>Total 2015-2018</b>	<b>396</b>	<b>132</b>	<b>33.3</b>	<b>96</b>	<b>24.2</b>	<b>152</b>	<b>38.4</b>	<b>13</b>	<b>3.3</b>

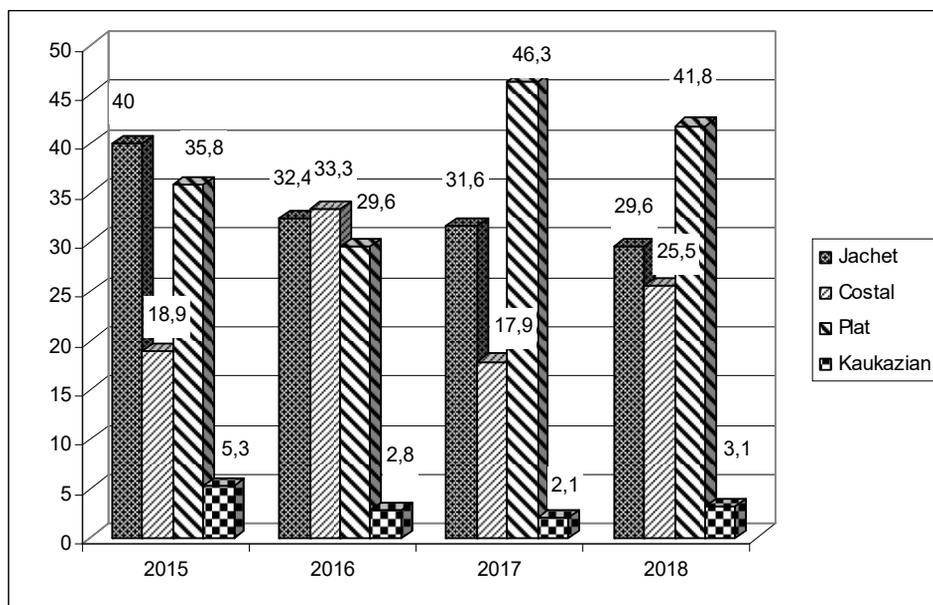


Fig. 2 The type of the loop of the lambs in dynamics

The analysis regarding the type of buckling of lambs during the reference period, in dynamics, indicates to us an increase of the weight of lambs with a flat

buckling type in the years 2017-2018 to 41.8-46.3% (Fig. 2) and a tendency to decrease those with jacket loop type from 40 to 29.6%. The weight of lambs with costal loop type

during the reference period ranged from 17.9 to 25.5%.

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grey with a weight of 34.6%, and the black and sur lambs of costal type constitute 19.7 and 18.7% respectively.

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Following the assessment of the lambs of different colors it was determined that during the reference period the maximum weight of those with excellent silkiness is represented by the grey lambs with an index of 62.3% (Fig. 3). They are followed by those of the sur color with an index of 60.4%. On the lot of black lambs the maximum weight of 51.5% was registered at those with the suitable silkiness. The share of lambs with low silkiness was within the limits of 0 to 3.8%. These indices are satisfactory but there are reserves for improving this index using concurrent procedures of selection and nutrition.

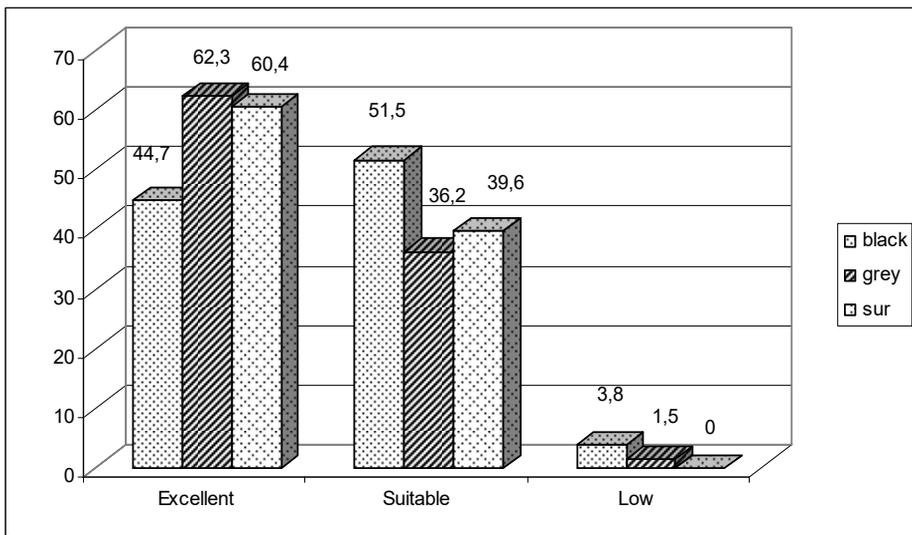


Fig. 3 The silkiness of the pilose cover at lambs of different colors at assessment

The calculation of the average of the silky character of the pilose cover of the lambs of different colors has shown a priority of the indexes in the colored lambs in relation to the black ones. This fact is confirmed by other authors and is influenced by the type of loop, the thickness and the length of the fibers, the shape of the loops, the gloss, etc. [6]. The silkiness at the grey lambs per lot (n = 130) constituted  $7.84 \pm 0.13$  points and truthfully exceeds ( $P > 0.001$ ) the silkiness at the black lambs (n = 132) which constituted  $6.99 \pm 0.13$  points. At lambs of sur color (n = 134) the silkiness constituted  $7.64 \pm 0.07$  and

exceeded veridical ( $P > 0.01$ ) this character at black lambs.

The study of the evaluation of the character of the skin such as silkiness, in dynamics, showed a tendency of increase of the share of lambs with excellent silkiness (tab. 3) at 50-63%. The share of lambs with the suitable silkiness has tended to decrease in the last 3 years, ranging silkiness has tended to decrease in the last 3 years, ranging from 49.5 to 33.3%. After calculating the average of this index, in points, it was determined that the difference recorded by years is not true.

Table 3 The silkiness of the pilose cover of lambs in dynamics

Specification	n	Excellent		Suitable		Low		M±m, points
		head	%	head	%	head	%	
Total y. 2015	95	45	47.4	48	50.5	2	2.1	7.45±0.17
Total y. 2016	108	68	63.0	36	33.3	4	3.7	7.48±0.16
Total y. 2017	95	48	50.5	47	49.5	-	-	7.42±0.13
Total y. 2018	98	60	61.2	37	37.8	1	1.0	7.6±0.12

Another basic index that has been studied is the gloss of the pilose cover which is in positive correlation with the silkiness. Research has shown that the maximum weight of lambs with intense gloss was registered on the lots of grey lambs by

61.5%. They are followed by the sur ones with a weight of 58.2%. On the lot of black lambs the maximum weight is represented by the lambs with the suitable gloss with 53.8%, and those with the intense gloss of 42.4% (Fig. 4).

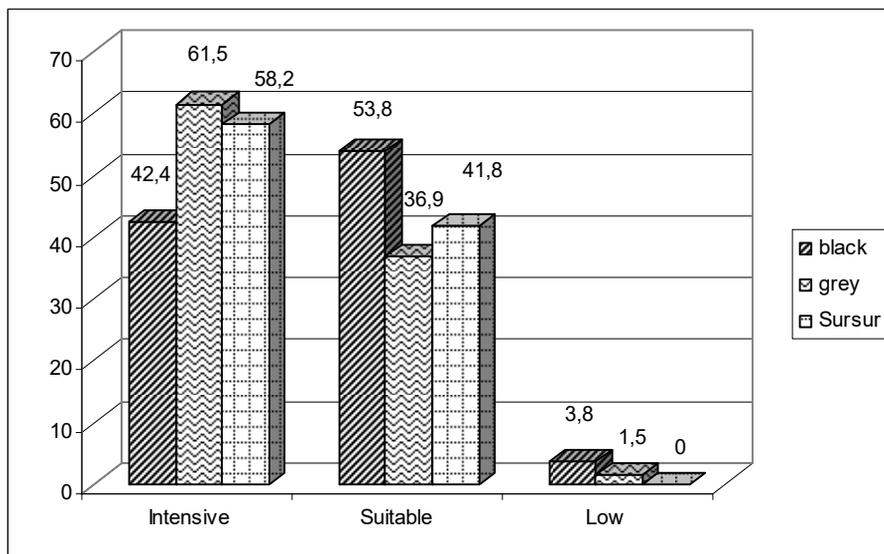


Fig. 4 The gloss of the pilose cover of the lambs at assessment

The share of lambs with low gloss varies within the range from 0 to 3.8%. The calculation of the index of expression of the gloss of the pilose cover at lambs depending on the coloration constituted at those grey  $7.7 \pm 0.14$  points and veridical ( $P > 0.01$ ) exceed the index for the black lambs which constituted  $7.2 \pm 0.13$ . On the lot of lambs of sur color this index constitutes  $7.3 \pm 0.11$  points.

The evaluation of the character of the gloss in dynamics, during the years 2015-

2018, showed that the weight of the lambs with the intense gloss varied in limits from 47.4 to 60.2% (tab. 4). The lambs with the proper gloss on the flock constituted a weight of 38.8-52.6%, and the lambs with the low gloss constituted a weight of up to 3.7%. The calculation of the gloss expressed in points showed that on average on the flock the gloss fluctuated within the range from  $7.35 \pm 0.13$  to  $7.55 \pm 0.13$ . The difference of this character by years is not true ( $P < 0.05$ ).

Table 4 The gloss of the pilose cover of lambs in dynamics

Specification	n	Intensive		Suitable		Low		M±m, points
		head	%	head	%	head	%	
<b>Total 2015</b>	95	46	48.4	47	49.5	2	2.1	7.47±0.17
<b>Total 2016</b>	108	64	59.3	40	37.0	4	3.7	7.42±0.17
<b>Total 2017</b>	95	45	47.4	50	52.6	-	-	7.35±0.13
<b>Total 2018</b>	98	59	60.2	38	38.8	1	1.0	7.55±0.13

## CONCLUSIONS

As a result of the appreciation of the pelt qualities of the lambs the Moldovan Karakul we can conclude that the classification of the lambs on this farm constitutes a weight of 90.4% elite and the I-st class. These lambs have the required types of buckling such as: flat- 38.4%, jacket - 33.3% and costal - 24.2%.

The evaluation of the silkiness showed that at the grey lambs it constitutes  $7.84 \pm 0.13$  points and is veridical ( $P > 0.001$ ) higher compared to the black lambs. As for the lambs of the sur colour, it makes up  $7.64 \pm 0.07$  points and surpasses the black ones ( $P > 0.01$ ). Lambs of the black colour accumulated  $6.99 \pm 0.13$  points. The gloss of the pilose cover at grey lambs constituted  $7.78 \pm 0.14$  points and it actually exceeds ( $P > 0.001$ ) the gloss of the black and sur lambs. For the black and sur lambs, the gloss constituted  $7.3 \pm 0.11$  and  $7.2 \pm 0.13$  points respectively.

The study of the dynamics of the silkiness and the gloss of the pilose cover at the lambs of the Moldovan Karakul type showed that during the reference period the differences detected depending on the year are not true ( $P < 0.1$ ).

For sheep breeders, the Karakul breed is more advantageous for breeding and reproducing the colored lambs (grey, sur), at which the pelagic qualities are higher and are required on the market.

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