

crossing is a simpler and more economical means of increasing the attention of drivers as they approach the crossing. At the same time, more favorable conditions for movement are provided, as well as a sufficiently high level of hazard warning.

Thus, the implementation of the proposed measures will increase the level of road safety in the zone of railway crossings by improving their designation on the section of the road network, advance warning of road users about the danger, equipping devices that exclude unauthorized departure of vehicles on the move when approaching it rolling stock of Railways and increasing the quality requirements for the maintenance of roads and streets in the zone of crossings. The inclusion of outdoor lighting at low-activity railway crossings located outside cities and towns at the time of the train's entry into the approach section will improve the economic performance of such road network facilities.

References :

1. Vrubel, Yu. A. Organization of traffic: at 2 p.m. / Yu. A. Vrubel. - Minsk: Belarusian Foundation for Road Safety, 1996. - Part 2. - P. 123–126
2. Schroder, F. Das Sicherheitsprogramm 2003 der DB AG / F. Schroder, W. Schafer // Deine Bahn. - 2003. - No. 6. - P. 323-327.
3. Technical means of traffic management. Rules of use: STB 1300-2002. - Minsk: NP RUE BelGISS, 2002. - 95 p.

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ADAPTIVE FEATURE OF THE SHEEP OF THE KARAKALPAK SURA TO DRY CLIMATES

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Abstract: the article presents the results of the study of the main defining signs of breeding Karakul sheep of the Karakalpak sura. The optimal criterion was determined for the distribution of experimental lambs of different colors according to adaptive types, classiness, and the width and length of curls of Karakul sheep of the Karakalpak type suras.

Key words: Karakalpak sur, colors, adaptive type, classiness, curl width, curl length.

Introduction: Currently, more than 500 sheep breeds of various directions of productivity are bred in the world, their total number today is about 1.25 billion heads of sheep, and only one Karakul breed is capable of producing amazingly beautiful and graceful lamb skins, among which the most original are the skins of the coloring of suras of the Karakalpak breed type.

Today, Karakul sheep are raised in more than 50 countries of the world, their total number is more than 30 million.

Due to the very high viability and adaptability of Karakul sheep, the rational use of the extreme conditions of pastures in these countries is ensured and makes it possible to improve the social and material situation of the population living in these regions. On a global scale, the demand for original colored karakul is growing in the foreign and domestic market. [2; S.13-20].

For this reason, the primary task for the karakul breeders of the Republic of Karakalpakstan is to conduct scientific research to satisfy the demand of the population for karakul pelts and karakul products aimed at maximizing the specific gravity of obtaining lambs of original, valuable colors and on the rational use of breeding sheep. [9; P.164].

The purpose of the research is to investigate scientifically based methods and techniques for breeding Karakul sheep of the Karakalpak Sura, to identify important breeding traits for selection, inherent in each color.

The object of the research was purebred Karakul sheep with colorful wools of Karakalpak breed type, lambs of different ages, and Karakul pelts.

Research Methodology. The feeding qualities of the lambs were evaluated at birth by individual scoring at 1-3 days of age in accordance with the instructions for scoring with the basics of breeding (T. 2015). A scented description of karakul on lambs and pelts was selectively carried out in accordance with the recommendations of the scientific research institute (according to R. T. Pissmennaya and M. D. Zakirov, 1963). The resulting digital material was processed by methods of variation statistics [4C.7-45].

Climatic pasture characteristics place of research. Of the total area of Kyzyl Kum, 20 million hectares, the Karakalpak part in the northwest of the massif occupies about three million hectares. [4; S.417-420].

Kyzyl Kum is a vast plateau 200-350 meters high above sea level, overlain by hilly and ridged sands. Their soil is sandy and desert gray soils and takir-like on the plains with a total feed capacity of about 4.0 million centners of hay per year [3; P.48-50]. The climate of the desert is sharply continental. The average annual air temperature in Kyzylkum is about 11 ° C. The absolute maximum temperature reaches 40-44 ° C, the absolute minimum -27 ° C, -32 ° C. The amount of precipitation does not exceed 100 mm. Duration without a frost period is 196 days [9; P.164].

The entire territory of the Karakalpak Kyzyl Kum, according to the type of plant groupings, is divided into a number of districts. In the mountainous regions - Sultan - Waisa, vegetation is very poor, both in the number of species and in the number of individuals, and is represented mainly by types of xerophilous shrubs. The leading plants of this region are wormwood, kurchat, ephedra, as an impurity in the cover, the grasses of bluegrass are involved, the ephemeral-ephemeroid cover forms the basis of fodder stocks for karakul breeding of the sand desert. The Bukhara highlands – the main plant groups are wormwood and wormwood –shrub thickets: wormwood, fluffy hodgepodge - keireuik, annual ephemera, boyalash, teresken and others. In these areas, the crop yield does not exceed 1.0 - 2.5 c / ha.

Areas of salted basins are richer in hodgepodge, like biyurgun, sarsazan and dwarf saxaul (*Arthrophytum Litwinovi*). Most of the Karakalpak Kyzylkum area covers sandy areas where wormwood, black and sand Helaxylon, dzhuzgun, rank, selets, ephemera, moss, koyan suyak (*Ammodendron Conollyi*), and cereal in seleu (*Aristida Karelini*) are widespread.

In the northwestern part of the Karakalpak Kyzylkum, in the region of ancient alluvial deposits, which occupies huge lowlands, the main background of the vegetation of the pastures forms *Anabasis salsa*. A few annual hodgepodge and ephemera, as well as wormwood and black saxaul, are mixed with it.

Research results. Based on a comprehensive study of the Karakul sheep of the Karakalpak breed suras of the breed type, available colors, their main breeding characteristics and qualitative indicators for the selection of animals, as well as evaluation criteria for the lambs of each color, which will be used in breeding and selection to create a population of sheep of valuable color, are determined. The results of the study of the adaptive type of lambs of different colors of the Karakalpak sura are given in table-1.

Table 1

Dry climate adaptive type of lambs of different colors of Karakalpak sura, %.

Colors	Number of animals	Jacket	Jugate	Flat	Caucasian
		$\bar{X} \pm S_x$			
Shamchirak-gul	110	67,3 \pm 4,1	4,5 \pm 0,9	12,7 \pm 2,6	15,5 \pm 2,7
Uryuk-gul	129	65,9 \pm 3,2	6,2 \pm 1,2	15,5 \pm 3,0	12,4 \pm 2,5
Pulaty-sur	80	61,3 \pm 2,7	11,3 \pm 2,0	18,7 \pm 3,4	8,7 \pm 1,9
Kamar:					
Red	66	46,9 \pm 1,5	6,1 \pm 1,1	31,8 \pm 4,3	15,2 \pm 2,7

Dark	35	48,6±1,7	14,2 ±2,6	22,6±3,8	14,6±2,5
Light colored	43	53,4±2,1	14,3±2,7	20,7±2,5	11,6±2,2
Shabdar	25	60,0±2,7	12,0±2,3	16,0 ±2,3	12,0±2,1
Chakyr	25	56,0±2,3	16,0±1,7	12,0±2,0	16,0±1,9
Black colored	108	55,6±2,1	19,4±1,9	14,8±2,6	10,2±1,8

The data in table 4.2.1. show that the bulk of the lambs of the desired colors (shamchyrak-gul, uryuk-ghul, pulat-sur and Kamar red) are of the jacket type. Among the animals, the colors of the shamchirak-gul of the jacket type (67.3 ± 4.1) are significantly higher in comparison with the Kamar red (46.9 ± 1.5), which is - 20.4%, and the yield of Caucasian type lambs is approximately the same. The proportion of jugate-flat types in the offspring of the shamchirak-gul color is 17.2%, and in the color of the Kamar red is 20.7% more, due to a decrease in the jacket-type lambs. The animal colors of Uryuk-gul and Pulat-sur occupied an intermediate position, between the colors of Shamchirak-gul and Kamar (red). And among the lambs, the less valuable colors of the jacket type were significantly less.

The class of sura lambs was established during the assessment (scoring), taking into account, first of all, the severity, contrast and uniform coloring and colors, the quality of curls and hair, the constitution and development of animals. The class of lambs of the Karakalpak-type suras is shown in Table-2.

Table 2

The class of lambs of the Kara-Kalpak type sur, %

Colors	Number of animals	Elite	Class I	Class II	Unfit
		$\bar{X} \pm S_x$			
Shamchirak-gul	110	14,5±1,3	51,8±3,8	28,1±2,1	5,6±0,8
Uryuk-gul	129	10,9±1,1	49,6±3,6	31,0±2,3	8,5±1,0
Pulaty-sur	80	16,2±1,7	47,5±2,9	32,5±2,5	3,8±0,6
Kamar:					
Red	66	9,1±0,8	43,9±1,8	37,8±2,1	9,2±1,3

Dark	35	2,9±0,4	42,8±1,6	48,6±3,4	5,7±1,0
Light colored	43	2,3±0,3	41,8±1,4	44,3±3,1	11,6±1,7
Shabdar	25	-	48,0±1,7	36,0±2,3	16,0±2,4
Chakyr	25	-	48,0±1,9	40,0±2,6	12,0±2,1
Black colored	108	12,9±1,3	50,9±3,7	32,6±1,9	3,6±0,6

As the data in table 4.2.2 show the largest number of lambs of the elite and first class (66.3%) was among the animals of Shamchirak-gul, this indicator in lambs of Uryuk-gul-60.5%, colors of the pulatH-sur-63.7% and then Kamar red-53.0 %.

Lambs of undesirable colors have a specific gravity of rejects of adaptation for a significant amount greater than light Kamar (11.6 ± 1.7), shabdar (16.0 ± 2.4) and chakyr (12.0 ± 2.1). In general, the obtained data on the class of lambs fully confirm the results of studies on the main dry climate adaptive indicators for coloring suras - the severity, contrast and evenness of colors and indicate relatively high wool qualities of lambs of the Karakalpak breed type of sheep. The results of studying the size of curls in lambs of the Kamar color (red, dark and light), depending on the type of wool, are shown in table-3.

Table 3

The size of curls in lambs of Kamar coloring (red, dark and light) depending on the wool type, mm.

Wool type	Red n=66		Dark n=35		Light n=43	
	width	length	width	length	width	length
	X±Sx					
Jacket	9,2±0,37	26,5±0,61	9,7±0,23	28,1±0,87	8,9±0,24	25,1±0,19
Jugate	10,3±0,35	25,9±0,78	10,4±0,27	26,5±0,69	9,4±0,17	24,9±0,16
Flat	9,6±0,29	28,4±0,81	9,9±0,31	29,7±0,93	9,3±0,29	25,9±0,25
Caucasian	9,3±0,24	23,1±0,69	9,6±0,27	23,5±0,54	9,1±0,23	22,8±0,13
In the middle	9,6±0,32	25,9±0,72	9,9±0,27	26,9±0,73	9,2±0,22	24,6±0,17

It is difficult to talk about any regularity (table-3.) by the width of the curl of each wool type of all colors, it is essentially absent, and the differences are statistically unreliable.

The data on the length of the curl (valka) to some extent confirm the results of other studies on Karakul black lambs. Relatively long curls are characteristic of animals of jugate and flat types, short ones are characteristic for lambs of the Caucasian wool type, individuals of a jacket type have an average size.

In general, no significant differences were observed in terms of the size (width, length) of the curl between the lambs of the studied colors of the Karakalpak sura. They are more characteristic of the average (width) size (8.9-10.4 mm.) of the curl, short and medium in length of the roller. The obtained measured indicators of curls confirm the distribution of the experimental groups of lambs of the studied colors.

Conclusions. Thus, analyzing the research results, it should be noted that the darker the karakul fur, the greater the number of valuable wool types. The results of the study show that, excessive lengthening of the hair length of the hair loses the quality of wool.

It is necessary to pay attention in the breeding process to the length and width of the size of the curls in the lambs, the coloring of the Kara-Kalpak type suras.

Reference:

1. Валиев У. В. Каракулеводство в Афганистане. Колос: Москва, 1980, 13-20.
2. Гигинейшвили Н.С. Племенная работа в цветном каракулеводстве. Москва: Колос, 1976, с.48-50.
3. Джуманиязов Ю.Д. Каракалпакский сур и методы его разведения. Материалы и рекомендации на улучшение племенного дела в животноводстве. Москва: Колос, 1966, 417-420.
4. Плохинский Н.А, Руководство по биометрии для зоотехников Изд.: «Колос», 1969, 7-45.
5. Турганбаев Р.У Каракалпакский породный тип каракульских овец окраска сур. //Монография.- Тошкент, 2012,-Б.164.

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