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CLINICAL PARAMETERS AND MILK YIELD OF F2 LINE EWES**Berdieva Khonimoy Evodullaevna**

Researcher, doctoral student (PhD), Research Institute of Livestock and Poultry.
Republic of Uzbekistan, Tashkent.

E-mail: honimojberdieva@gmail.com**Ro‘ziboyev Nuraddin Rahimovich**

Doctor of Agricultural Sciences, Professor, Head of the Akhangaran Department
of the Research Institute of Livestock and Poultry Breeding. Republic of Uzbekistan,
Tashkent.

E-mail: ruziboevnuraddin@gmail.com

Abstract: In the research, clinical parameters and milk yield of F2 line ewes of $\frac{3}{4}$ Hisar and $\frac{1}{4}$ Jaydari breeds are presented. In this case, it was found that the clinical parameters of the F2 line ewes are at the physiological standard level according to the seasons of the year. In the researches, it was found that the milk yield of second line crossbred ewes of Hisar and Jaydari breeds was equal to 44.9 kg, which was 3.6 kg or 8.7% ($P>0.95$) higher than that of their pure Jaydari breed peers. Therefore, at the age of 21 days, the absolute weight of crossbred lambs was 8.98 kg, which was 0.72 kg ($P>0.95$) higher than that of purebred Jaydari lambs. This means that the ewes are high in milk yield, and the daily extra weight gain and high growth rate of the crossbred lambs born from the breeding of these sheep "in-breeding", expands the possibilities of replenishing the flock with young animals and is considered important, determines high efficiency in sheep farming. These data indicate that the ewes are healthy in all groups, and the metabolic processes in their bodies are almost the same, and as a result, the ewes have a high milk yield.

Keywords: sheep, lamb, breed, crossbred, Hisar, Jaydari, live weight, ram, selection.

Relevance of the topic. In the field of animal husbandry, sheep breeding is one of the leading branches, 30% of the total meat delivered in Uzbekistan is obtained from sheep breeding, which requires the development of this branch on a more scientific basis. For this purpose, it is important to take care of the sheep at a reasonable level, to feed them with full value, and to further improve the breeding work. From sheep, human food (meat and fat), industrial wool, skin, fur, and medical products are obtained.

Mountain and sub-mountain regions depend on how well the conditions for feeding and keeping sheep in the pastures are organized in the harsh cold and frosty days of winter and in the extremely hot summer months. This, in turn, ensures high productivity and is of particular importance in increasing the volume of meat and wool products obtained from sheep.

Body temperature in warm-blooded animals is one of the parameters that changes little depending on the season, and it is related to the metabolic processes in the body. At the same time, the body temperature varies depending on the external environment, i.e., the air temperature, the animal's breed, age, and physiological state. For example, in farm animals, the body temperature that is lower or higher than normal can be a symptom of unpleasant events or diseases occurring in the animal's

body. Therefore, it is important to determine the body temperature of sheep in experimental groups.

To find out the number of pulses per minute in sheep, it starts by identifying the blood vessel, which is then checked by examining the femoral artery in the inguinal area. To check the pulse, the artery is palpated with 2-3 fingers for 30-60 seconds.

It was observed that the blood and clinical parameters of the studied groups were at the level of the physiological norm. Therefore, at the same time, crossbred rams achieved somewhat higher results compared to purebred rams, according to these indicators. It can be concluded that the digestive processes in the organisms of crossbreds are progressing in a positive direction, therefore, the productivity indicators are high. In terms of biochemical indicators in the blood, purebred rams achieved high results. These data indicate that purebred rams have a superior immune system and rapid carbohydrate metabolism.

By palpating the artery, its size, the fullness, the condition of the artery wall, and rhythm of the vessel are determined. This is important in determining the physiological condition of sheep.

The processes that allow the body to absorb oxygen and release carbon dioxide from the body are carried out through breathing. In animals, the number of breaths is determined based on the movements of the chest or abdominal walls or the noticeable flow of hot air coming out of the nostrils during exhalation. Especially in the cold season of winter, the number of breaths can be determined by the steam coming out of the nostrils when the animal is exhaling.

Using the genetic potential of Hisar and Jaydari sheep to create their high-yielding genotypes, to genetically improve productivity characteristics, to establish high-yielding breeding flocks of the breed, to breed high-yielding sheep in terms of meat productivity, and to develop methods for improving the selection features of the offspring obtained from them is of scientific and practical importance.

Also, it is of urgent importance to crossbreed the Jaydari breed using Hisar breed rams and to study the clinical parameters of the crossbred ewes obtained from them, as well as to improve the selection features by studying the milk yield of the ewes.

Research sources and methods. The practical part of the research was conducted at the "Xolto'raev Oybek XM" breeding farm, which specialized in sheep breeding in the Ohangaron district of the Tashkent region. Research was carried out on lambs born from pure Jaydari $\frac{1}{4}$ and $\frac{3}{4}$ Hisar breeds of F2 line sheep from "in-breeding".

For the experiments, 46 lambs of the pure Jaydari breed were selected for group I, and 49 lambs from "in-breeding" of F2 line sheep were selected for group II.

Research results. The study of clinical parameters of sheep according to the seasons of the year in the conditions of the mountain and sub-mountain regions of our republic is an important indicator in assessing the level of adaptation to the conditions in which they are kept. Keeping the sheep's clinical parameters at a normal level is important for the sheep's metabolic processes and their health.

In this context, we studied the clinical parameters of the sheep in the experimental groups according to the seasons of the year. Table 1 shows the results of the study of the clinical parameters of ewes in the experimental groups.

Table 1

Clinical parameters of the sheep

Parameters	Group (p=5)			
	I		II	
	X±S	Cv,%	X±S	Cv,%
Winter				
Body temperature °C	38,59± 0,03	0,23	38,57±0,26	0,21
Heart rate (beats per minute)	71,4±0,37	1,64	71,5±0,26	1,19
Breathing rate (times per minute)	18,0±0,26	5,54	17,9±0,27	4,89
Spring				
Body temperature °C	38,7± 0,07	0,60	38,6±0,060	0,49
Heart rate (beats per minute)	72,4±0,73	3,20	72,2±0,416	1,82
Breathing rate (times per minute)	18,8±0,42	7,00	18,2±0,442	7,68
Summer				
Body temperature °C	39,4± 0,15	1,23	39,21±0,081	0,65
Heart rate (beats per minute)	76,9±0,43	1,78	75,7±0,42	1,77
Breathing rate (times per minute)	27,1±0,60	7,06	26,2±0,44	5,34
Autumn				
Body temperature °C	38,8±0,08	0,63	38,7±0,07	0,55
Heart rate (beats per minute)	72,8±0,61	2,65	72,9±0,56	2,46
Breathing rate (times per minute)	19,0±0,58	9,61	18,8±0,49	8,24

In the data in Table 1, it was found that the body temperature, breathing rate, and heart rate of the ewes in both groups were at the level of physiological standards, and there was no significant difference between groups. For example, in the summer, the body temperature of the sheep in both groups was 39.4 and 39.21 °C , the heart rate was 76.9 and 75.7 beats per minute, and the breathing rate was 27.1 and 26.2 times per minute. Body temperature is 0.81 °C and 0.64 °C, heart rate is 5.5 and 4.2 beats per minute, and breathing per minute is 9.1 and 8.3 times higher, respectively, compared to the winter season.

In our research, the body temperature of purebred Jaydari breed group I was 0.81 °C higher than winter, 0.7 °C and 0.6 °C higher than spring, respectively. Also, in group I crossbreds, these indicators are 0.64 °C, 0.61 °C and 0.51 °C high, respectively.

In our studies, the coefficients of variation for clinical parameters in all seasons have an influence on efficient breeding. High pure Jaydari breeds have a respiration rate of 5.54–9.61%, while F2 crossbred ewes have a respiration rate of 4.89–8.24%.

The coefficients of variation were low when observed in groups I and II for heart rate of 1.64-3.2% and 1.19-2.46%.

In our research, there was no intergroup difference in body temperature, heart rate and respiration of sheep in all experimental groups in spring and autumn compared to their summer equivalents. These data indicate that the metabolic processes in the body of sheep in all groups are almost the same and are in the physiological norm.

The milk yield of the ewes depends on the live weight of the lambs born from them. The growth and development of the lambs of low milk yield ewes are not at the normal level, if the ewes are high in milk yield, its lambs will have a higher daily gain and a higher growth rate. This is considered important in replenishing the flock with young animals and determines high efficiency in sheep breeding.

Sheep's milk, as the main food product, is considered to be of vital importance due to the fact that it contains many nutrients and can fully satisfy the nutritional requirements of the lamb's body. The milk yield of sheep depends on the breed, age, conditions of feeding and keeping, as well as the duration of lactation. Sheep milk consists of 82.1% water, 6.7% fat, 5.8% protein, 4.6% sugar and 0.8% ash matter. Milk contains the nutrients, the first group - carbohydrates and fats, the second group - proteins and hormones, and the third group - macro and microelements, vitamins and enzymes. This is considered to be of vital importance in the life of the lambs' organism during the first period of drinking milk.

Milk in the first three days of lactation is called colostrum. At the time of colostrum, it is composed of 30% dry matter, 10% fat and 16% total protein, so it is rich in albumin, globulin and vitamins. It is important for the normal development of lambs to be fed with their mother's milk during the colostrum period.

In order to study the effect of sheep genotype on milk productivity, lambs born from "in-breeding" of crossbred sheep with Hisar and Jaydari genotypes and lambs born from pure Jaydari ewes were selected. After the first 21 days after birth, lambs begin to grow hair on their stomachs, and in this stomach, they have the ability to digest large amounts of food, i.e. various green grasses, soft forages and hay. Considering this, we studied the live weight and absolute weight of the new-born and 21-day-old lambs born from "in-breeding" of crossbred sheep and lambs born from pure Jaydari ewes, as well as the milk yield of the ewes. Its results are presented in Table 2.

Table 2

**Milk yield of the ewes and live weight parameters of lambs
(p=26)**

Groups	Live weight of the lambs, kg						Milk yield of the ewes, kg	
	New-born		21-day-old		Absolute weight		X±S	Cv, %
	X±S	Cv, %	X±S	Cv, %	X±S	Cv, %		
I	4,96±0,08	7,23	13,22±0,20	7,85	8,26±0,21	13,2	41,3±1,06	13,0
II	5,37±0,07	6,30	14,35±0,23	8,14	8,98±0,25	14,1	44,9±1,10	14,0

As can be seen from the table, lambs born from pure Jaydari ewes in group I weighed 4.96 kg at birth and 13.22 kg at the age of 21 days, their absolute weight was 8.26 kg, and the milk yield of the ewes was 41.3 kg. Lambs obtained from "in-breeding" in group II weighed 5.37 kg at birth, 14.35 kg at 21 days of age, and their absolute weight was equal to 8.98 kg, and the milk yield of the ewes was equal to 44.9 kg.

The average live weight of crossbred lambs born from "in-breeding" in experimental group II was 5.37 kg, which was 0.41 kg or 8.3% ($P>0.999$) higher than the live weight of pure Jaydari lambs in experimental group I. Also, the average live weight of crossbred lambs at the age of 21 days was 14.35 kg, which was 1.13 kg or 8.55% ($P>0.999$), higher than that of their pure Jaydari breed peers. It was 0.72 kg or 8.7% ($P>0.95$), higher than the absolute weight of pure Jaydari lambs. It should be noted that in our research, high milk yield was found in ewes with the second line of the Hisar and Jaydari breeds. According to it, it was found that the milk yield of the ewes of the experimental group II was 44.9 kg in 21 days, which was 3.6 kg or 8.7% ($P>0.95$) higher than that of pure Jaydari breed ewes. The variation presented in Table 2, i.e., the coefficients of variation, for milk yield of the ewes and live weight of lambs, was 7.23-13.2% in pure Jaydari lambs, and 6.30-14.1% in lambs born from F2 crossbred ewes. A high level of these indicators has a positive effect on efficient breeding.

Summary. The body temperature, heart rate, and respiration of sheep in all experimental groups were not significantly different between groups. These data show that the sheep in all groups are healthy, and the metabolic processes in their bodies are almost the same.

In the research, it was found that the milk yield of the crossbred ewes with the second line of Hisar and Jaydari breeds was equal to 44.9 kg, which was 3.6 kg or 8.7% ($P>0.95$) higher than that of pure Jaydari breeds. Therefore, at the age of 21 days, the absolute weight of crossbred lambs was 8.98 kg, which was 0.72 kg ($P>0.95$) higher than that of the same age purebred lambs. This means that the ewes have a high milk yield, and the daily extra weight gain and high growth rate of the crossbred lambs born from breeding these sheep "in-house", expands the possibilities of replenishing the flock with young animals, which is considered important. It determines high efficiency in sheep farming. The milk yield of the ewes depends on the live weight of the lambs born from them.

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