

Influence of the Level of Feeding of Pregnant Sheep on the Size and Formation of Individual Morphological Indicators of Newborn Lambs

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Abstract – The article discusses the influence of the feeding level of pregnant sheep on the size and on the formation of body weight, carcass weight, development of skin and hair, skeletal and muscular systems of lambs of different constitutional types.

Keywords – Astrakhan lambs, the level of feeding of queens during the pregnancy period, development of skin and hair, skeleton and muscle tissue, constitutional type.

I. INTRODUCTION

In the current socio-economic conditions, the main type of sheep products, ensuring its profitability, is the production and sale of lambs for meat [1].

The study of the diverse nature of the formation and growth processes of the organism, the penetration into the secrets of the laws of these processes can make it possible to control the development of animals, that is, to increase their productivity, to reduce the cost of production costs, to improve its quality. When studying them, it is recommended to proceed from the integrity of a living organism, its unity with the environment. The external environment is the most important factor in the development of organs and systems. For normal animal life, certain conditions are necessary, changes in which in one form or another affect the body.

The initial environment in which the emergence and development of the fetus occurs is the maternal organism, on the state of which its formation depends.

A number of researchers indicate that when creating artificial parameters for keeping and feeding animals, not only physiological, but also morphological control over biological processes in the organism of animals is necessary [2]. In this regard, we were tasked to study the effect of the level of feeding during the period of pregnant on the magnitude and degree of intrauterine growth of the black-colored Karakul sheep, taking into account the types of their constitution.

II. METHOD AND MATERIALS

The experiments were conducted in the conditions of farms of the Kashkadarya region on two groups of karakul black-colored ewes. The first group of ewes was kept in traditional pasture conditions and, in addition to grazing on pastures, during the second period of pregnant sheep (70 days) and the first 15 days after the birth of lambs, they gave 1.0 kg of crushed pasture hay, only 85 kg per sheep and they served as a control. The uterus of the second group, in addition to the above feeds in the second period of pregnant sheep (70 days) and the first 15 days after lambing,

additionally received 0.3 kg per head per day of concentrated feed, that is, they additionally received 25.5 kg of feed, on average, per head.

The need for additional feeding of pregnant sheep ewes in the second half of their pregnancy is due to the fact that it is during this period that the maximum yield of pastures is observed, at the same time the most intensive growth of the fruit is observed, which therefore requires maximum nutrient flow, that is, requires energy, and its amount is reduced, which consequently causes inhibition of growth of the embryo.

Live weight of sheep is of great biological and economic importance. Larger animals have the greatest ability to reserve nutrients in their bodies, within the breed and herds, as a rule, they have better health and a stronger constitution [3].

In the works of a number of authors it is noted that the most generally accepted and widely used indicator, which may indicate the early maturity of this species and breed of animals, is live weight at birth.

III. RESULTS

All factors affecting the development of the fetus, affect its mass. Therefore, this feature can serve as a very important indicator of the results of exposure of the organism to conditions of uterine development.

In karakul breeding this question is of particular importance, since different live weight of lambs causes a diverse manifestation of astrakhan signs determining their marketable value.

Analysis of the data in Table 1 shows that the level of feeding of the uterus during the period of pregnant sheep has a significant impact on the rate of intrauterine development

of the fetus. Consider this in more detail on the example of lambs strong constitution.

Thus, the live weight of the lambs of the experimental group was not 18.2% or 0.81 kg more. A similar difference was observed in live weight of the carcass, skeleton weight and muscle tissue (the difference is significant $P > 0.99$).

Notes that the sign of the live weight of lambs at birth has some kind of connection with almost all of the august signs. However, the degree and nature of this relationship is variable. Positive reliable correlation of body weight at birth is established with skin area, skin thickness, curl width, hair length, luster, silkiness, pigmentation and negative - with curl elasticity, hair thickness, curvature, curl length [4].

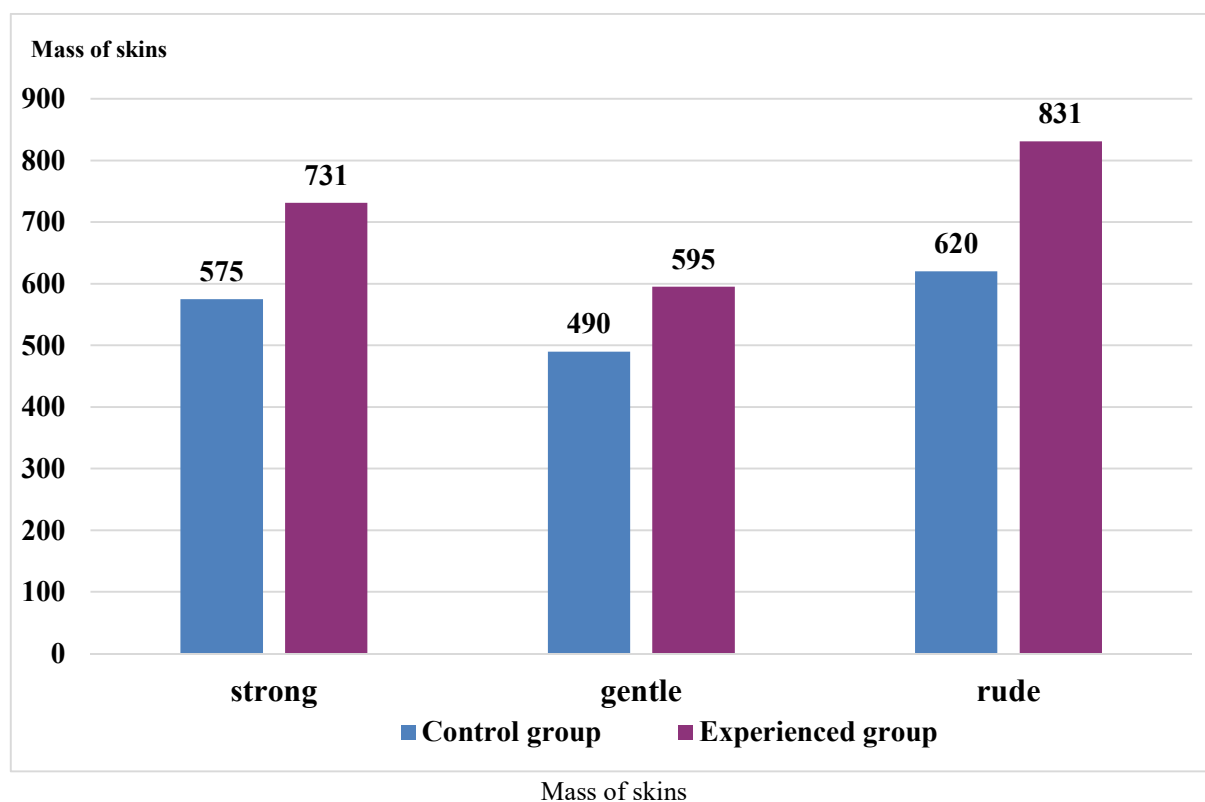
Our data show that the live weight of lambs at birth is closely related to the type of their constitution. Regardless of the level of feeding, lambs of a tender constitution were smaller, coarser — larger, and lambs of a strong constitution held a middle position. However, with an improved level of feeding, the uterus in the sugary period of the lambs of all types of constitution in the uterine period had a more intensive growth rate. Thus, the lambs from the experimental group outnumbered their peers from the control group with a strong, gentle and rough constitution, respectively, by 18.2; 12.2 and 19.2 percent. A similar difference was observed in the weight of the carcass, skeleton and pulp content (the difference is significant $P > 0.99$).

If we take into account that lambs of a tender constitution - individuals with low live weight, strong - with transitional and coarse - individuals with the highest live weight, which is clearly struck by the correlative relationship of the weight of the carcass, skeleton and flesh with the live weight of lambs. At the same time, the level of feeding of queens during the pregnant sheep period has a direct positive effect on the development of these indicators.

Influence of feeding level of pregnant sheep on the value of newborn lamb

Indicators	Units	Constitution type					
		strong		gentle		rude	
		X±Sx	in %	X±Sx	in %	X±Sx	in %
Control group							
Live weight	kg	3,91±0,1	-	3,64±0,1	-	4,2±0,17	-
Skin weight	kg	575±0,31	14,7	490±21,4	13,4	620±0,1	14,8
Mass of ink	kg	1,82±0,06	46,5	1,66±0,08	45,6	1,98±0,1	47,1
Skeleton mass	kg	0,63±0,03	16,1	0,59±0,03	16,2	0,73±0,09	17,4
Pulls mass	kg	1,17±0,06	20,9	1,07±0,02	29,4	1,25±0,1	29,8
Experienced group							
Live weight	kg	4,72±0,2	-	4,1±0,17	-	5,2±0,2	-

Skin weight	kg	731±21,5	15,5	595±2,91	14,5	8,31±29,4	16,0
Mass of ink	kg	2,45±0,1	51,9	1,99±0,1	48,5	2,69±0,12	51,7
Skeleton mass	kg	0,89±0,04	18,8	0,67±0,05	16,3	0,98±0,1	18,9
Pulls mass	kg	1,56±0,07	33,0	1,32±0,08	32,2	1,71±0,09	32,9



This connection is especially clearly manifested in the mass of skins. So, the mass of the skins of the tender, strong, rough constitutions from the control group was 13.4; 14.7 and 14.8 percent of the live weight of lambs, whereas in the experimental group it was equal to 13.4; 15.5 and 15.9 percent. This means that the improved level of feeding of pregnant sheep equally positively affects the growth rate of the skin and hair, bone and muscle systems of the body, and lambs of all types of constitution. At the same time, the optimal level of feeding more significantly affects the differentiation of constitutional differences of offspring (see figure).

IV. CONCLUSION

Thus, it has been established that the level of feeding of the pregnant sheep of the Astrakhan breed in the second period of fetal uterine development directly affects the growth rate of lambs, the formation of skin and hair, their skeletal and muscular systems. By adjusting the level of feeding of females in the second period of pregnant, we can

receive newborn lambs with optimal development parameters.

REFERENCES

- [1] Ерохин А. И. и др. Формирование мясности у овец в постнатальном онтогенезе. // Ж. Овцы, козы, шерстное дело. М., 2006 № 3 стр. 27-30.
- [2] Яцкин В. И. Влияние австралийских мериносов на рост, развитие и мясную продуктивность тонкорунных овец республики Калмыкии. Авторферат докторской диссертации. М. Дубровицы, ВИЖ, 2005. стр. 44.
- [3] Юсупов С. Ю. Конституциональная дифференциация и продуктивность каракульских овец. Монография Т. 2005, 240 стр.
- [4] Умурзаков Т. Изменчивость признаков и селекция каракульских овец. Монография. Алматы, 1992.

- [5] Шаптак Э.С. Постнатальный рост и мясная продуктивность каракульских баранчиков при разных условиях утробного развития. Ж. «Овцы Козы и шерстяное дело» Москва. №2. 2019 стр 42-43.
- [6] Khanal P., Nielsen M. O. Impacts of prenatal nutrition on animal production and performance: a focus on growth and metabolic and endocrine function in sheep. Journal of Animal Science and Biotechnology. 2017; 8: 75p.