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The Influence of Placenta Extract on the Reproductive Function of Sheep during the Sexual Season

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Summary: The effect of placenta extract on the nature of the manifestation of sexual cycles in sheep was studied. It has been established that placenta extract shortens the duration of the reproductive cycle and heat of sheep due to the ovulation phase of the sexual cycle.

Keywords: Karakul sheep, sexual season, reproductive cycle, fertility, placenta extract, hunting, insemination.

Introduction. Sheep farming, the livestock branch of sheep farming, is practiced throughout the world and has played an important role in the economies of many countries throughout history. Currently, there are about 1 billion domesticated sheep on the globe. The widespread distribution and abundance of sheep is explained by the high economic value of these animals. From sheep farming we get the most valuable products such as: lamb, lamb fat, wool, milk and dairy products.

In connection with the transition to market conditions, the problem of increasing the profitability and level of profitability of sheep farming becomes very acute. Intensification of livestock farming is possible subject to a further increase in the number of livestock, an increase in its productivity, and accelerated reproduction. The study of the regulation of sexual function in females and the mechanism of its disturbance served as the basis for the widespread use of hormonal drugs from among gonadotropins, estrogens, prostaglandins, gestagens and other biologically active agents that can, in a short period of time, create the necessary conditions for the initiation of sexual cyclicity with subsequent fruitful insemination. Recently, many scientists have been developing methods for the biotechnical regulation of sexual functions in animals through the use of biologically active substances in various combinations. The method is characterized by high biotherapeutic and economic efficiency. The rapid regression of the corpus luteum they cause, followed by maturation of the follicles and ovulation of the egg, provides an opportunity for programming processes such as insemination and birth of animals. In addition, a number of scientists note that the use of biologically active drugs to regulate sexual cycles in the uterus, as well as in the treatment of many gynecological diseases, gives positive results.

The objective of our research was to determine the effect of a tissue preparation, namely placenta extract, on the reproductive function of sheep during the sexual season.

Material and research methods. The material for our research was 18-month-old Karakul sheep from the Toshpolvon Botirlari farm in Nurabad region. A total of 90 heads of sheep were studied, 60 of which were in two experimental groups and 30 heads in the control group. The animals had average fatness.

The results and their analysis. Analysis of morphofunctional studies of the genital organs of sheep and the results of experiments to determine the biological activity of tissue preparations allowed us to come to the conclusion that with the help of placenta extract it is possible to influence the manifestation of the sexual cycles of Karakul sheep.

The first experiment was carried out on cycling sheep during the sexual season. To do this, 30 ewes were injected with 14 ml of placenta extract twice (7 ml per 1 injection) with an interval of 3 days. Control animals (30 animals) were injected subcutaneously with 7 ml of physiological solution.

The nature of the manifestation of the duration of the sexual cycle and fertility from the first and subsequent inseminations were studied (table).

Table. The influence of placenta extract on the manifestation of the reproductive cycles of sheep.

№	Name of the drug and method applications	Number of sheep (goals)	INDICATORS (M±m)					
			Duration of sexual intercourse cycle (days)	Hunting duration (hours)	Fertilized from the first insemination		Total fertilized	
					goals	%	goals	%
1.	Double subcutaneous injection of 14 ml of placenta extract with an interval of 3 days, 7 ml per 1 injection	30	16,0 ±0,4	34,0±1,0	19	63,3	29	96,6
2.	Double intramuscular injection of 14 ml of placenta extract with an interval of 3 days, 7 ml per 1 injection	30	16,2±0,5	36,0±0,8	20	66,6	28	93,3
3.	Control group (7 ml saline)	30	17,2±0,8	42,0±1,2	18	60	24	80,0

The results of the experiment, reflected in table 1, show that placenta extract shortens the duration of the reproductive cycle and oestrus in sheep. In the control group of sheep, the duration of the sexual cycle averaged 17.2±0.8. In the experimental groups – 16.0±0.4 and 16.2±0.5 days. Considering the duration of the hunt, we can conclude that the duration of the reproductive cycle in sheep is shortened due to the ovulation phase of the sexual cycle. In control sheep, the duration of hunting averaged 42.0±1.2 hours, in the experimental groups it was 34.0±1.0 and 36.0±0.8 hours. Some shortening of the duration of the reproductive cycle and estrus had a beneficial effect on the fertility of sheep. Thus, in the experimental groups, 63.3 and 66.6% of sheep were fertilized from the first insemination, and in the control group, 60.0% of the sheep were fertilized.

In addition, the results of the experiment indicate that the placenta extract also has a positive effect on subsequent sexual cycles, which were observed in transient sheep. This is confirmed by the results of lambing ewes. In the first experimental group of 30 sheep, 29 gave birth to 1 lamb, in the second, 28 animals lambed. In the control group, out of 30, only 24 (80%) sheep lambed.

The shortening of the duration of the reproductive cycle and estrus is caused by increased metabolic processes in the genitals and, in particular, in the ovaries of ewes. However, these indicators fluctuated within normal limits. It appears that placenta extract acts on the central nervous system, stimulating the reproductive centers. This is indicated by signs of estrus, heat and general reaction. Hunting and general reaction in the experimental sheep were more pronounced compared to the control ones. About 60% of the sheep in the experimental group themselves pursued the breeding rams, and their copulatory reflex and erection of the labia more quickly appeared in them.

A comparison of the above data gives reason to believe that under the influence of placenta extract, sexual cycles are normalized due to increased metabolic processes in the genitals. Normalization of metabolic processes in the ovaries increases their reactivity to the effects of endogenous gonadotropic hormones secreted by the pituitary gland. The results of animal observations convince us of this. In no case did we observe signs of hyperstimulation or pathological phenomena. All animals exhibited full sexual cycles with the phenomena of estrus, general reaction, heat and ovulation.

Conclusion. Thus, placenta extract can be used with great effectiveness to prevent defective sexual cycles. Pathological sexual cycles often occur in years with unfavorable pasture and feeding conditions and with a sharp change in climatic conditions. In such years, as a rule, up to 20% of ewes remain barren.

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