# POSTNATAL MORPHOGENESIS OF SHEEP THYROID GLANDS RAISED IN DIFFERENT NATURAL AREAS.

**Allamuradov Oybek Mamasoliyevich**

*PhD student of the Samarkand State Veterinary Medicine, Animal Husbandry and Biotechnology University*

**Abstract:** We studied the embryonal thyroid gland in 18 foetuses of sheep of Slovac merino breed by light microscopy in the period from 32nd to 36th day of evolution. We found that in the majority of sheep foetuses, the thyroid gland consists of two separate lobes and their structure was the same during the afore-mentioned period. Parenchyma, composed of solid cell networks or cell groups in the form of nests, was irregularly divided by septa, containing embryonal blood vessels. Almost all cases of this experiment showed slight asymmetry of lobes. In one case the asymmetry reached a considerable proportion - nearly the length of one lobe. Glandular isthmus was presented in only eight cases from 18 foetuses. We did not find fibrous isthmus in any case.

**Key words**: Growth, thyroid gland, sheep, morphogenesis, microelements.

The role of microelements in the development of cattle breeding is important, it leads to the activation of the physiological processes of the body. They act as biological catalysts that are part of hormones, enzymes, trace elements and some vitamins or activate them. Microelements have a positive effect on the animal's growth, development, productivity, reproductive capacity and endurance. One of the trace elements with high biological activity is potassium. It participates in the processes of enzyme formation, supports the body's defense reactions, accelerates the formation of new cells, positively affects the processes of fertilization and fetal development, and accelerates the growth of animals. The Republic of Uzbekistan dated March 16, 2017 No. PQ-2841 "On additional measures to deepen economic reforms in animal husbandry" and dated March 3, 2018 "Development and export of leather footwear and fur industries" The information in this article serves to a certain extent in the implementation of the tasks defined in the decisions of PQ-3693 on measures to further encourage capacity building and regulatory legal documents related to this activity. In the body, potassium cations moderate osmotic pressure, alkali-acid balance, and actively participate in the processes of metabolism and digestion. The peculiarity of potassium is that it has radioactive properties, it ensures the activity of the heart muscles, controls the heartbeat, internal organs dilate blood vessels. has been determined to have. In the conducted studies, there are signs of correlation between the amount of potassium in the blood and the characteristics of the Karakol sheep.

The amount of potassium in the blood is also related to the intensity of bleating of black sheep.It is important to determine the factors influencing these characteristics. Karakol in our experiments, the characteristics of re-bouncing of sheep during their fleeing season we determined depending on the intensity of coming to the tune. It can be seen from the information presented in the table because animals with different levels of potassium in their blood are biologically different they differ from each other according to their indicators, that is, according to the intensity of coming to tune.

Animals with a large amount of potassium in their blood come into heat much earlier and they fertilization is usually completed within one sexual cycle. Such a situation, to breeders animals with a high potassium content in their blood, making it possible to manage the breeding season groups of animals that allow to end the hunting season early and in short periods creation is a source of potential. Here, the amount of potassium in the blood is different it is of great interest to study the fertilization levels of ewes. The result ofexperiments showed that the fertilization of colds with different levels of potassium in the blood indicators were different. That is, the level of fertilization of the sovliks in the plus version is medium it was found to be 12.2% higher than the option, and 14.5% higher than the minus option. Many researchers have determined the intensity of fertilization of Karakol sheep depending on the amount of potassium determined that potassium in the blood of various animals during periods of sexual activity to have significant variability in the amount (in large horned animals) determined. In the research we conducted, the amount of potassium in the blood of black sheep the degree of correlation with rebound properties was studied. Age as sources of research and purebred Karakol sheep with the same skin productivity were obtained. In the blood as a criterion determining the amount of potassium, the animals were divided into three separate groups: "minus" variant - the amount of potassium is 730 μg/ml. to, "medium" option from 730 μg/ml to 850 up to mcg/ml, + the "plus" option - the amount of potassium is more than 850 mcg/ml. Rams Qualitative and quantitative indicators of sperm are presented in the table below.

As can be seen from the table data, potassium is one of the biological indicators in the blood. The intensity of coming to the tune from different numbers of sheep differs significantly. Potassium .A large number of ewes come into rut earlier and their fertilization is almost in one sexual cycle will be done. Such situations are at a high level among breeders allows to transfer. Sheep grazing in Karakol with a high level of potassium the season is carried out in short periods.

Evolutionary developmental biology (evo-devo) studies the developmental processes of different organisms to determine the ancestral relationships between

them and to discover how developmental processes evolved. It addresses the origin and evolution of embryonic development and the modifications of developmental process that produced novel features (Wikipedia, accessed August 2014). Evo-devo teaches us that some fundamental developmental processes are preserved by the evolution among species (1). The evo-devo approach is not only becoming crucial for the modern study of evolution but also it helps in the understanding of morphofunctional alterations in human psychiatric diseases. For instance, autism spectrum disorders (ASD) show abnormal function of cortical areas, such as the frontal or associative neocortices that are minimally present in rodents (2, 3). An approach to the etiologic factors of psychiatric diseases can be inferred by the study of homologous genetic pathways that lead to similar developmental processes in both humans and other mammals. A second issue is that several psychiatric diseases, including ASD, show a wide spectrum of different phenotypes, which are the result of both genetic (nature) and environmental (nurture) factors (4); including among the latter the interaction of comorbid disorders such as hypothyroidism and hypothyroxinemia (5). We begin this review with a summary of thyroid hormone synthesis, transport, and cell actions, which are regulated by a very complex assembly of transporters, deiodinases, receptors, and cofactors. As such, tissues have some control over thyroid hormone action, independent of circulating levels of thyroid hormones. We continue with the analysis of the role of thyroid hormones at different phases of brain development and maturation, focusing our attention on vulnerable periods. These periods occur during gestation and lactation when genetic and environmental factors, which include nutrients and chemical contaminants, interfere with maternal and offspring thyroid health. There is evidence that anatomical characteristics of autistic brains represent defects in processes that occur early in development, in the first half of gestation. Moreover, genomic studies have revealed a catalog of critical genes for these processes that are regulated by thyroid hormones. Finally, recent studies have reported that thyroid hormone deficiency might contribute to increase the number of autism phenotypes, and that disorders associated with hypothyroidism and hypothyroxinemia, such as intellectual impairment, seizures, and anxiety, are comorbid of ASD.

Thyroid Function during Brain Development

Thyroid hormones (T4, thyroxine; and T3, 3,5,3′-triiodo-L-thyronine) are synthesized in the thyroid gland and are transported to different tissues and organs where they regulate growth, maturation, and function in many organs and systems of vertebrates. In particular, the mammalian central nervous system (CNS) is an important target of thyroid hormones from fetus to adult. However, the maximal

vulnerability of the CNS to thyroid hormone imbalance occurs during the earliest stages of brain development.

## References

1. Yusupov S.Yu. Constitutional differentiation and productivity karakulskikh oves.

Tashkent 2005

2. Aripov U.Kh. Methodological recommendation po sokhraneniyu genofonda karakulskikh oves

Sura to Surkhandarin. / U.X. Aripov and dr. Recommended. Samarkand, 2017, - S. 8-20.

3. Aliev D.D. Physiological method of increasing the productivity of Surkhandarya Sur Karakol sheep

aspects. Autoref. Diss. biol. doctor of science Tashkent 2021. Page 6.

4. Mukhitdinov Sh., Aliev D., Ismailov K., Mamurova G., Matkarimova G., Bobokandova M.

Productivity of the amount of biologically active substances in the blood of Karakol sheep

Correlational dependence on indicators Tashkent 2021 3/1/1 83-89b