



UNIVERSITY OF LIFE SCIENCES "KING MIHAI I" FROM TIMISOARA

"YOUNG PEOPLE AND MULTIDISCIPLINARY RESEARCH IN APPLIED LIFE SCIENCES"



"Young people and multidisciplinary
research in applied life sciences"

13-14 November, 2025

Physical and Technical Wool Traits of Mazekh Sheep Breed

Zorik Pambukhchyan¹, Davit Navasardyan¹, Tatevik Sargsyan^{1,2}, Valeri Aleksanyan³, Levon Ter-Isahakyan⁴, Yuri Marmaryan¹

1Research Center of Selection, Genetics and Feeding of Agricultural Animals. Armenian National Agrarian University. RA

2 Ministry of Economy of the RA

3 Center for Ecological-Noosphere Studies of the National Academy of Sciences, RA

4 «Pedigree Animal Breeder's Association» NGO RA

Abstract: The study investigates the physical and technical wool traits of the Mazekh sheep breed. The aim is practical contribution to farms targeted at improving the thermal insulation properties of the wool and adapting it to industrial requirements.

Keywords: sheep, mazekh, wool, length, thickness

• Introduction

Wool analysis is key for quality assessment, product use, and meeting standards. Armenia, a mountainous country with a subtropical climate, relies heavily on sheep breeding as a vital part of its agriculture, especially in highland regions. The national sheep population fluctuated from 660,100 in 2018 to 615,700 in 2019, then grew to 668,400 by 2025. The Mazekh breed, known for its fat tail and adaptability to harsh winters, is the most common native breed, mainly raised in Armavir, Ararat, and Tavush. Research is conducted in Kotayk and Tavush.

- **Material and method:** At the start of the study, key productivity indicators for all age and sex groups of Mazekh sheep were recorded on farms in Qanaqeravan and Koghb villages. Wool fleece weight was measured individually during shearing, and wool quality traits such as clean fiber yield, fleece fractions, length, thickness, and strength were determined using standard methods. The herd structure is well maintained with main and reproducing ewes making up 94–96% of the flock. Due to an annual culling rate of 17–20%, young animals do not always adequately replace the herd. It is recommended to increase the proportion of reproducing ewes to improve herd renewal.

- **Results and discussions:** The wool of the Mazekh sheep is coarse and consists of various fractions: fluff, awn and dead. The national average is 2.2 kg. Yield depends on age, sex, and reproduction. Selective breeding improved yield by 1.88 kg in 2022. Washed wool varies due to crossbreeding. Dead hairs are rare. Wool fineness and thickness vary slightly. Modern wool is finer.

Conclusions: The wool yield of rams. Koghb village. depending on the year ranges from 1.8–2.6 kg (2021), 2.5–2.9 kg (2022), 1.8–2.4 kg (2023). In Qanaqeravan: 1.8–2.5 kg (2021), 2.5–3.0 kg (2022–2023). Washed wool yield is high (56.77%–76.84%), mainly in 1-2 year ewe lambs. Improving Mazekh gene pool is vital. Breeding should use local rams in Armenia. Selection starts at 5–6 months, final at 13–15 months.

Acknowledgement: Sincerely thanks to all farmers and staff in Qanaqeravan and Koghb villages for their valuable cooperation and support during this study.

References:

- Armstat. Statistical Committee of the Republic of Armenia (2025). Sum Totals of Exhaustive Livestock Census as of 1st January, 2025, 5. https://www.armstat.am/file/article/g_kendaniner_01.01.2025.pdf
- Enciu A., Zamfir C. Z., Ilisiu E., Nicolescu A. (2023). Evaluation of the wool production on Romanian sheep breeds. Annals "Valahia" University of Targoviste. 15 (2).Romania,1-6. https://www.researchgate.net/publication/375844091_Evaluation_of_the_Wool_Production_on_Romanian_Sheep_Breeds
- Holman B. W. B., & Malau-Aduli A. E. O. (2012). A review of sheep wool quality traits. Annual Review & Research in Biology, 2(1), 1–14. <https://www.researchgate.net/publication/265893162>
- Khan M. J., Abbas A., Ayaz M., Naeem M., Akhter M. S. and Soomro M. H. (2012). Factors affecting wool quality and quantity in sheep. African Journal of Biotechnology Vol. 11(73), 13761-13766. https://academicjournals.org/article/article1380791103_Khan%20et%20al.pdf
- Rowe J. B. (2010). The Australian sheep industry – undergoing transformation. Anim. Prod. Sci.