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EDITORIAL

MANAGEMENT FOR BIODIVERSITY AND LIVESTOCK: ECOREGIONS FOR CONSERVATION

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The second Editorial article of 2025 will focus on the important concept of ecoregions for the management and conservation of the biodiversity. Ecoregions are areas of general similarity in ecosystems and in the type, quality, and quantity of environmental resources. They serve as a spatial framework for the research, assessment, management, and monitoring of ecosystems and ecosystem components. As recently stated by the World Economic Forum (2020), biodiversity loss and ecosystem collapse are one of the biggest threats facing humanity in the next decade. The issues of biodiversity conservation and biodiversity monitoring are important and relevant in regional and transboundary aspects. A primary cause of the currently ongoing biodiversity loss is deterioration and fragmentation of habitats. As a result, an increasing number of studies and monitoring programs are focusing on changes in the quantity and quality of habitats at the global, regional, national and landscape levels. Monitoring of biodiversity at the level of habitats is becoming increasingly common. The regional level of biodiversity monitoring involves the study of habitats in terms of ecological regions (ecoregions).

Facing this very crucial challenge, National Agricultural and Food Centre (NPPC, Luzianky) is leading an Interreg Hungary-Slovakia project (grant number HUSK/2302/1.2/018) co-funded by the European Union, titled "Support for cross-border biodiversity protection in "*Ex situ*" conditions", coordinated by Prof. Chrenek Peter from NPPC – Luzianky, together with the National Centre for Biodiversity and Gene Conservation (Hungary) as partner.

The goal of the project is mutual cross-border cooperation and support in protection biodiversity with the aim of protecting selected animal genetic resources under the conditions of *ex situ in vivo* and *in vitro*. This involves mapping, selection and genotyping of the original ones Slovak and Hungarian breeds of animals only by small breeders. For this reason, the number of individuals is very low and, in some cases, there is a risk of extinction. Experiments in *ex situ in vitro* conditions will be oriented towards sampling 1) for purposes DNA isolation and detection of the origin of individuals, 2) for the collection of ejaculates and blood for the purpose of microbiological, morphological and andrological examinations, 3) isolation of poultry and rabbit stem cells and 4) cryopreservation of biological material (sperm, stem cells, bone marrow) of national animal breeds as well as brown hare rabbit for purposes of cryopreservation in gene banks. *Ex situ in vivo* experiments will focus on the collection of animals, from each breed (13 breeds of rabbits, 1 breed of brown hare, 2 breeds of poultry, 4 breeds of sheep) at minimum 2 pieces from one breed. The result of the project will be cryopreserved samples in gene banks on the Slovak and Hungarian sides, mutual exchange of reserve samples, a collection of animals of national breeds. The effective transfer of knowledge to the target groups will be in the form of securing professional events and conferences and through publications that will be developed during the solution of the project.

In the second Editorial article of 2025, I am going to introduce the contents of the articles collected and published in the secondissue of 2025 year.

Oluwadele *et al*. designed research to investigate the effect of feeding *Pennisetum purpureum* (Napier grass) silage supplemented with farm residues on growth performance, digestibility and nitrogen metabolism in West-African Dwarf bucks. The study shows that strategic supplementation of Napier grass-based diets with locally available farm residues can optimize goat growth and production efficiency. The diets with up to 70 % supplementation are recommended to smallholder farmers to maximize growth, feed efficiency and nitrogen retention, thus contributing to enhanced livestock productivity.

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Makarevich *et al.* studied the comparison of two systems of *in vitro* cattle embryo production. The culture system with a reduced oxygen showed to be more efficient for bovine IVP than the system with an atmospheric oxygen in a conventional CO_2 incubator. This finding is important especially when in vitro produced embryos are derived from cryopreserved oocytes.

Makovicky *et al.* designed research with the aim to document and describe macroscopic, as well as microscopic findings in laying hens who died because of heat stress during the summer heat. The diagnostic findings document hyperaemia, cyanosis, a cooked meat-like appearance, noticeable venostasis of internal organs and intravascular haemolysis. The article could be useful for veterinary pathologists diagnosing deaths caused by prolonged exposure to extraneous environmental high temperatures.

Sulaiman *et al.* investigated the impact of functional feed additives (dietary supplementation with probiotics (*Lactobacillus acidophilus* and *Bacillus subtilis*) and prebiotics (mannose oligosaccharide and inulin) on the growth performance, carcass characteristics, immune response, gut morphology, and microbiota in broiler turkeys. The inclusion of these functional additives enhances turkey production efficiency without compromising carcass quality. Thus, probiotics and prebiotics supplementation can be a valuable strategy to optimize broiler turkey performance and health.

Aluko *et al.* evaluated the physicochemical and organoleptic properties of Greek-type yoghurt differently formulated. Greek-type yoghurt was prepared from 45 litters of fresh milk, divided into three batches to differently formulate: TN (fortified with gelatine), ST (traditionally strained) and TS (increased total solid). The yoghurt was accepted and rated by the consumer in this sequence: TS>ST>TN.

Williams *et al.* investigated the effect of dietary olive-garlic extract oil (OGEO) supplementation on gut morphometry and morphology, carcass yield and relative organ weights of broilers. In conclusion, dietary supplementation of OGEO at 1 g/kg increased duodenal villi height and dressed percentage of broilers.

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Enjoy the reading!

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REFERENCES

Oluwadele, J. F., Aganga, A. A., Ekeocha, A. H. & Olorunkoya, S. (2025). Effects of feeding *Pennisetum purpureum* silage on growth performance, digestibility and nitrogen metabolism of Dwarf goats. *Slovak Journal of Animal Science*, 58(2), In Press.

Makarevich, A., Olexiková, L., Dujíčková, L., Bezdiček, J. & Nesvadbová, A. (2025). Comparison of two systems of *in vitro* cattle embryo production: Reduced oxygen versus atmospheric oxygen content. *Slovak Journal of Animal Science*, 58(2), In Press.

Makovický, P., Bolgáč, P., Makovická, M., Jakič, K. & Makovický, P. (2025). Pathological findings in laying hens which died due to heat stress: Case report. *Slovak Journal of Animal Science*, 58(2), In Press.

Sulaiman, A. S., Rano, N. B., Muhammad, H. A., Abdullahi, H. I. & Abdul'aziz, A. (2025). Optimization of broiler turkey health and performance using functional feed additives. *Slovak Journal of Animal Science*, 58(2), In Press.

Aluko, O. P., Omojola, A. B. & Fakolade, P. O. (2025). Physicochemical and organoleptic characteristics of greek-type yoghurt differently formulated. *Slovak Journal of Animal Science*, 58(2), In Press.

Williams, G. A., Mafimdiwo, A. N., Akinjute, O. F., Essien, K. F., Olajide, W. O., Anisere, O. E. & Apata, Q. G. (2025). Influence of olive-garlic extract oil dietary supplementation on gut morphometry and morphology, carcass yield and organ weight of broilers. *Slovak Journal of Animal Science*, 58(2), In Press.