альбендазолу-Л 10%, що використовувались відповідно до інструкції з використання не є абсолютною. Також виявлено тенденцію, що ефективність препарату значно зростає при зменшенні інвазованості тварин збудником у більш молодих птахів. Екстенс- та інтенсефективність при дегельмінтизації фензолом-К 22 7-8-місячних курей зростає відповідно на 11,1 і 3,7% порівняно з 9-12-місячними птахами в яких інтенсивність інвазії була найвищою. Аналогічна закономірність простежується також при використанні альбендазолу-Л 10%. Слід зазначити, що використані нами антгельмінтики до проведення експерименту не використовувалися.

GORCZYCA Zuzanna, Second year master's student of Biotechnology in animal production and health protection
RAJEWSKA Joanna, Fourth year student of Veterinary Medicine
Scientific supervisors – **PETRAJTIS-GOŁOBÓW Monika,** DVM PhD, Asst. Prof., **GIZIŃSKI Sławomir** DVM PhD DSc., Asst. Prof., Institute of Veterinary Medicine, Warsaw University of Life Sciences, Warsaw, Poland

MORPHOLOGY OF EPIDIDYMAL SPERMATOZOA IN CONTEXT OF PROTECTION OF ENDANGERED SPECIES BASED ON THE EXAMPLE OF RED DEER (*CERVUS ELAPHUS*)

The International Union for Conservation of Nature lists 56 species from the *Cervidae* family on the Red List of Threatened Species, more than half of which are classified as at least near threatened. Red deer (*Cervus elaphus* L.) as a whole species is listed as of least concern [1]. It is, however, according to IUCN, divided into seven subspecies, some of which are classified as endangered by the governments of the countries inhabited by those subspecies, i.e. *Cervus elaphus maral* in Iran [2] or *Cervus elaphus corsicanus* in Corsica, France [3].

The red deer subspecies found in Poland is *Cervus elaphus elaphus*. According to data collected by Statistics Poland, the deer headcount was about 292,7 thousand as of 10 March 2022 [4]. It is considered a game and subjected to selective killing with the season spanning from 21 August to the end of February [5]. The purpose of selective killing is to eliminate the stags considered not useful for breeding from the population.

Hunted stags are selected based on their antlers size and symmetry [6]. The reason for this is that it is believed that the antlers advertise the sperm quality and fertility of stags – larger and more symmetrical antlers indicate stags with better fertility [7]. So, the intent behind the selective killing is to eliminate the stags with small, asymmetrical antlers, which are presumed to have lower genetic potential.

It raises many questions: can we always correctly measure the genetic potential and fertility of stags by the antlers size?, doesn't selective killing disrupt biodiversity of the population and natural selection?

The aim of this study is to evaluate the morphological quality of epididymal spermatozoa obtained post-mortem from stags shot during selective killing season, as the sperm morphology is one of the main determinants of male fertility. It would be an important voice in the discussion on the selective killing validity. The study will also contribute with the new data on red deer spermatology, that could be used in studies on ART in cervids, including the usage of sperm samples collected post-mortem, which could be helpful in maintaining populations of the endangered subspecies of red deer.

The testes with epididymis are donated for the study courtesy of members of the Polish Hunting Association. We collect sperm samples from ductus deferens and cauda epididymis and dilute them in semen extender. Firstly, we perform computer-assisted analysis of sperm motility to gain the first, approximate perception about the condition of the samples, because there is a few days long interval between collecting epididymis and performing analyses. Afterwards, we prepare smear slides, stain them using SpermBlue and SpermStain and evaluate the morphology of spermatozoa. We also examine the samples for DNA fragmentation using Halomax kit, fluorescent staining and fluorescence microscopy and prepare the testicular tissue samples for histopathological analyses.

Our preliminary results show that even after 4 days of storage between collection and analysis, partial spermatozoa motility was preserved. At this stage of the study we also have not observed excessive amount of abnormal forms of spermatozoa in any of the samples analysed so far.

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