

INVESTIGATION ON THE MAIN REPRODUCTIONAL DISORDERS OF THE CULLED AI BOARS IN LITHUANIA

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Summary. Aim of the work was to study the histomorphological structure of testicles and testosterone levels in peripheral blood serum from culled in Lithuanian breeder-ground boars, taking into consideration the effect of alteration-inducing pathological factors.

In the present work 63 boars that were culled in AI centers due to the different reasons of reproductive failure were included into the analysis. The effects of individual boar, age of boar, season, and age by season interaction effect were included into the model. The culled boars were analyzed for peripheral blood testosterone levels, sperm morphology, and presence of other than spermatozoa cells in the ejaculate. Histomorphological evaluation of testes was carried out after the slaughter.

The analysis revealed that boar effect was the major factor influencing the culling rate based on increased numbers of sperm head, tail pathologies and pathologies of semen as well as in the testicles. The age of the boar and the season were the factors that had effect ($p \leq 0.05$) on the incidence of sperm pathologies. Histological evaluation of the testicles of the culled boars showed interstitial orchitis and mild (in case of sperm tail- and head-pathologies) and partial (total sperm pathology) degeneration of seminiferous tubules, but no histologically detectable changes in the epididymes. The peripheral blood plasma testosterone level did not differ significantly from the control group and other cells than spermatozoa in the ejaculates were not detected. In the case of pathologic condition in spermatozoa and testicles (oligospermia), testicles are small, soft and weight less compared to the control group ($p \leq 0.05$); peripheral blood plasma testosterone levels were by 207.4 mmol/l lower compared to the control ($p \leq 0.005$) sperm samples contained high incidence of lymphocytes and a few leukocytes. Histological evaluation of the affected testicles revealed interstitial non-purulent orchitis, total degeneration and necrosis of seminiferous tubules, degeneration of some efferent tubules in the epididymes, focal fibrosis of interstitial tissue and hyperplasia of pseudosratified epithelium of columnar cells.

Keywords: AI boars, sperm quality, fertility, pathology.