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Concentration of Copper, Iron, Zinc, Cadmium, Lead, and Nickel in Bull and Ram Semen and Relation to the Occurrence of Pathological Spermatozoa

P. Massányi , J. Trandzik, P. Nad, B. Koreneková, M. Skalická, R. Toman, ...show all
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and knob twisted tail were the most frequent forms of pathological spermatozoa in both species. Correlation analysis in bulls showed high positive relation between iron and zinc ($r = 0.72$), nickel and separated tail ($r = 0.76$), separated tail and tail torso ($r = 0.71$), tail torso and total number of pathological spermatozoa ($r = 0.72$), and between tail ball and total number of pathological spermatozoa ($r = 0.78$). In rams high positive correlation between cadmium and lead ($r = 0.98$), nickel and separated tail ($r = 0.77$), separated tail and total number of pathological spermatozoa ($r = 0.69$), knob twisted tail and retention of cytoplasmic drop ($r = 0.78$), and between knob twisted tail and other pathological spermatozoa ($r = 0.71$) was found. High negative correlation in ram semen was observed between copper and nickel ($r = 0.71$), copper and separated tail ($r = 0.70$), and between iron and tail torso ($r = 0.67$). The results suggest that the studied metals have a direct effect on spermatozoa quality.

Keywords: Trace elements Semen Pathological spermatozoa Bull Ram

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