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Original Articles

# 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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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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