

ASSESSMENT OF THE MINERAL DENSITY AND MINERAL CONTENT OF THE EQUINE PROXIMAL PHALANX DEPENDING ON DIFFERENT MORPHOLOGICAL TYPES AND SEX

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Abstract. So far, the analysis of the bone mineral density (BMD) and the bone mineral content (BMC) of proximal phalanges, which would simultaneously include the differences resulting from the different morphological types of horses has not been investigated. In humans, these parameters are inextricably linked with age, sex and breed. It is not known if this is the case in horses as well. The research material consisted of isolated proximal phalanges derived from 37 horses. The individuals represented different morphological types: respiratory-dolichomorphic type, respiratory-muscular-mesodolichomorphic type, muscular-lymphatic-mesometric type and lymphatic-brachymorphic type. The research was conducted with the use of densitometer Norland model Excell Plus (Fort Atkinson WI, USA). Numerical material reflecting BMD and BMC of the pastern bones of horses was characterized on the basis of descriptive statistics. In order to check the significance of differences between the studied morphological types one-factor analysis of variance was applied, whereas differences between individuals of various sexes were examined with the use of t-student test. No significant differences (P) between average values of BMD and BMC for the studied morphological types and sexes of horses were found.

Keywords: horses, densitometry, proximal phalanges, thoracic limbs.