The estimation of the genetic parameters for conformation traits in the Romanian Spotet cattle breed

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Improving the global genetic potential of cattle involves the consideration of several groups of characters, such as milk production, longevity, conformation, reproduction and others. An economical milk and meat production is supported by superior longevity which is influenced by a harmonious conformation. Among the character groups enumerated above, in the present paper were analyzed the conformation traits from the point of view of their genetic determinism (heritability, genetic and environmental correlations). The estimation of the genetic parameters was made for a number of 18 conformation traits, using as phenotypic information the linear score from the appreciation of the conformation traits of cows at first calving from the Romanian Spotet breed. In total, 2387 animals were analyzed, of which 1193 were parents and 1,194 were animals with performance. In order to optimize the running time and computation of the genetic parameters, the canonical transformation method applied to an multitrait animal model was used. The fixed effects of the model were as follows: year- month, age at first calving and stage of lactation, and as random effects was herd-year-season and animal. The obtained results revealed that the values of heritability and genetic and environmental correlations are within the normal range of variation, specific to the conformation traits, similar for other cattle populations.

Keywords: genetic parameters, multitrait animal model, conformation traits