

عنوان مقاله:

Estimation of genetic parameters of litter size in Moghani sheep using threshold model via Bayesian approach

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خلاصه مقاله:

This study was conducted to estimate the genetic parameters of litter size (LS) in Moghani sheep using threshold model via Bayesian approach. The data originated from the Jafar-Abad Station of Ardabil province, Iran, and included 9698 lactation records of 4977 ewes with lambings from 1995 until 2010. The pedigree file consisted of data on animals born from 1987 to 2010. The significance of fixed effects was examined using the Logistic procedure. Six different animal models were fitted by considering direct genetic effect, including and excluding maternal effect (with and without covariance between maternal and direct genetic effects) as well as permanent environmental effect via Bayesian approach. The genetic parameters were estimated using the THRGIBBS1F90 program. The most appropriate model for LS was determined based on the Deviance Information Criterion (DIC). Based on the obtained results, the second model that included the direct genetic and permanent environmental effects of the ewe was chosen as the best model. Using the second model, the estimates of direct heritability, permanent environmental effect of the ewe and repeatability were 0.041, 0.027 and 0.068, respectively. The low estimates of genetic parameters obtained in the current study for LS in Moghani sheep indicated that selection based on the ewe's own performance may result in slow genetic improvement.

کلمات کلیدی:

deviance information criterion, genetic parameters, sheep, threshold model

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