

عنوان مقاله:

Impact of maternal effects on ranking of animal models for genetic parameter estimation for birth weight in male Afrikaner cattle in Zimbabwe

محل انتشار:

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نویسنده:

N Assan - Department of Agriculture, Faculty of Science, Zimbabwe Open University Bulawayo Region, Zimbabwe

خلاصه مقاله:

Variance components for additive direct, additive maternal, permanent environmental maternal effects, the covariance between additive direct and maternal effects were estimated by restricted maximum likelihood, fitting four animal models from 1359 pedigree male birth weight records of Afrikaner cattle of Zimbabwe. All investigated models included a random direct genetic effect, but different combinations of random maternal genetic and permanent environmental effects as well as direct-maternal genetic covariance. The direct heritability (h^2_a) ranged from 0.40 to 0.43 when the maternal genetic effects were included in the model, whereas h^2_a was highest 0.45 when maternal effects were excluded. The maternal heritability (h^2_m) was 0.00 when only maternal genetic effects were included in the model and were 0.09 and 0.09 when the permanent environmental effect of the dam was added. The permanent environmental effect of the dam was negligible. Weak negative covariances between direct and maternal genetic effects (σ_{2am}) was observed in model which had all the random effects fitted and proved to be appropriate among the four models using the log likelihood ratio test.

کلمات کلیدی:

Variance components, Animal model, Birth, Male, Afrikaner cattle

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