



Genetic parameters for carcass traits and body weight using a Bayesian approach in the Canchim cattle

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ABSTRACT. Correlation between genetic parameters and factors such as backfat thickness (BFT), rib eye area (REA), and body weight (BW) were estimated for Canchim beef cattle raised in natural pastures of Brazil. Data from 1648 animals were analyzed using multi-trait (BFT, REA, and BW) animal models by the Bayesian approach. This model included the effects of contemporary group, age, and individual heterozygosity as covariates. In addition, direct additive genetic and random residual effects were also analyzed. Heritability estimated for BFT (0.16), REA (0.50), and BW (0.44) indicated their potential for genetic improvements and response to selection processes. Furthermore, genetic correlations between BW and the remaining traits were high ($P > 0.50$), suggesting that selection for BW could improve REA and

BFT. On the other hand, genetic correlation between BFT and REA was low ($P = 0.39 \pm 0.17$), and included considerable variations, suggesting that these traits can be jointly included as selection criteria without influencing each other. We found that REA and BFT responded to the selection processes, as measured by ultrasound. Therefore, selection for yearling weight results in changes in REA and BFT.

Key words: Animal selection; Backfat thickness; Cattle; Composite breed; Rib eye area