

CONSTRUINDO SABERES, FORMANDO PESSOAS E TRANSFORMANDO A PRODUÇÃO ANIMAL

HERITABILITY FOR ANTRAL FOLLICLE COUNT AND ITS GENETIC ASSOCIATIONS WITH ULTRASOUND CARCASS TRAITS IN SENEPOL CATTLE

Taynara Raimundo MARTINS^{*1}, Larissa Carolina NOVO², José Antônio FERNANDES JUNIOR³, Monyka Mariana Massolini LAUREANO², Cláudio Vieira de ARAÚJO², João Teodoro PÁDUA¹, Gilberto Romeiro de Oliveira MENEZES⁴

*corresponding author: taynara_enz@hotmail.com

¹Universidade Federal de Goiás, Goiânia, Goiás, Brasil

²Universidade Federal de Mato Grosso, Sinop, Mato Grosso, Brasil

³Fazenda Grama, Pirajuí, São Paulo, Brasil

⁴Embrapa Gado de Corte, Campo Grande, Mato Grosso do Sul, Brasil

Antral follicle count (AFC) has been widely used as a selection criterion by Senepol breeders in Brazil. However, it is yet not known its potential for selection response as well as its genetic association with carcass traits. Thus, the objective of this study was to estimate heritability for AFC and its genetic correlations with ultrasound carcass traits in Senepol cattle. Records on 1,793 Senepol heifers, involved in performance tests, were used. Traits studied included AFC and the following ultrasound carcass traits measured in longissimus muscle: ribeye area (REA), fat thickness (FAT) and percent intramuscular fat (MAR). AFC was assessed by ultrasonography in the ovaries. For the analyses, AFC was log-transformed ($= \log(\text{AFC}+10)$). (Co)variance components were estimated by the restricted maximum likelihood method under a multi-trait animal model. Fixed effects of contemporary group and age of the animal at the beginning of the test as a covariate (linear) were adopted. For the random part of the model, direct additive genetic effect and error were used. The heritability for AFC was 0.41, suggesting great potential for selection response. Genetic correlations between AFC and REA, FAT and MAR were, respectively, 0.00, 0.11 and -0.38. These results indicate that selection for increasing AFC will have no significant impact on carcass muscling and fat cover, however, it is expected a decrease in marbling. AFC presents great potential for selection in the Senepol breed. None correlated responses in REA and FAT are expected when selecting for AFC, while a negative one is expected in MAR.

Keywords: fertility, meat quality, selection criteria, tropically adapted taurine

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