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CONSTRUINDO SABERES, FORMANDO PESSOAS E TRANSFORMANDO A PRODUÇÃO ANIMAL

HERITABILITY ESTIMATES FOR THE CHARACTERISTICS OF PRODUCTION, CONFORMATION AND MANAGEMENT OF BOVINES DAIRY GIR

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Scientifically, little is known about the cattle Dairy Gir's genetic parameters today. The objective was to estimate heritabilities for nineteen traits of production, conformation and management of pure animals, members of the National Breeding Program for Dairy Gir. The methodology used was the maximum restricted likelihood (REML). The heritabilities obtained were 0.23 (milk yield), 0.10 (fat yield) and ranged from 0.01 to 0.53 for conformation/management. The heritability obtained for milk yield in 305 days in this work is within the limit of values of up to 0.31 reported by other studies with Dairy Gir. The low heritability obtained for fat yield in 305 days can be explained by the superiority of the residual variance (σ^2e) found, when compared to the additive genetic variance (σ^2a), suggesting a relevant environmental effect in its expression. It is also justified by the inclusion of only pure females, which reveals a possible lower genetic influence on the phenotypic variation of this characteristic in this population. The navel length presented the highest estimate among the conformation traits (0.53). The rump related characteristics (rump height, rump angle, rump length, width between ílium and width between ischium) had low to moderate heritabilities, ranging from 0.07 to 0.31. Among the characteristics of the mammary system, a wide variation was observed between heritability estimates (0.06 to 0.44), indicating that roof length, udder depth, posterior udder width and ceiling diameter may present better responses to selection. For body structure, the heritabilities obtained were 0.11 for body length and 0.23 for the thoracic perimeter. In the legs and feet set, the characteristics of the hoof angle, lateral position of the legs and the position of legs seen from behind showed low to slightly moderate heritabilities, varying from 0.01 to 0.14. Characteristics such as angle of the rump, anterior udder ligament and position of the legs seen behind had heritabilities lower than 0.10, considered low according to some authors, indicating little effect of the genetic factors. In this way, small response to selection can be expected in these characteristics. As a management characteristic, temperament obtained a heritability of 0.13. Thus, in this research, 77% of the conformation and management traits presented estimates of heritabilities higher than 0.10, which indicates that a portion of the variation of these is linked to the additive effect of the genes. This finding allows a positive perspective for the improvement of these in Dairy Gir through selection.

Keywords: Animal breeding**,** genetic parameters, genetic progress, zebu.