

16-011 HERITABILITIES AND GENETIC TRENDS FOR BODY WEIGHTS IN A CANCHIM HERD. Silvio de Paula Mello¹; Mauricio Mello de Alencar^{2,3}; Luiz Otávio Campos da Silva^{3,4}; Pedro Franklin Barbosa². ¹Graduate Student at Animal Breeding Department - UNESP -Jaboticabal, SP. ²Embrapa - Pecuária Sudeste, São Carlos, SP. ³Embrapa - Gado de Corte, Campo Grande, MS. ⁴Bolsista do CNPq.

Body weight data of Canchim (5/8 Charolais + 3/8 Zebu) cattle, born from 1953 to 1996 at the Southeast-Cattle Research Center (CPPSE) of the Brazilian Agricultural Research Corporation (Embrapa), in São Carlos, SP, Brazil, were analysed to estimate heritabilities and genetic trends for body weights at birth (BW), weaning (WW, 240 days) and yearling (YW, 365 days). This herd has been subjected to selection for body weight since its formation, but mainly after 1979, when the selection criterion used has been yearling weight adjusted for month of birth and age of cow, besides breed characteristics. The genetic trend was estimated as the weighed regression coefficient of the yearly breeding value means on year of birth of calf. The genetic values were estimated by the restricted maximum likelihood derivative free method, with an animal model that included the fixed effects of contemporary group (year-season of birth-sex of calf) and the covariable age of cow at calving (linear and quadratic effects), and the random additive direct, additive maternal and permanent environmental effects. A three - trait analysis was carried out for the estimation of breeding values. Genetic trends for direct and maternal effects were estimated. The direct and maternal heritability estimates were equal to 0.39 and 0.03 for BW, 0.48 and 0.04 for WW, and 0.63 and 0.05 for YW, respectively. The genetic correlations between the direct and maternal effects were, in the same order, -0.04, 0.01 and -0.28, respectively. The annual additive genetic trends were, in the same order, equal to 0.046, 1.336 and 1.619 kg, respectively, corresponding to 0.13, 0.66 and 0.75 % of the herd means. The maternal genetic trends were equal to -0.002, 0.106 and 0.042 kg/year for BW, WW and YW, respectively. The results showed that the selection criteria used resulted in genetic progress for BW, WW and YW. However, the genetic changes obtained were bellow the possible ones, as a function of the genetic variability existing in the herd for the traits studied.

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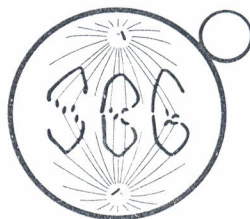
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