

Genetic parameters for postweaning traits in Braunvieh cattle

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ABSTRACT. Genetic parameters for traits related to postweaning growth in Braunvieh cattle, reared under tropical and sub-tropical conditions in Brazil, were studied. Weight traits were weight at 365 days of age (W365, N = 4055), at 450 days (W450, N = 3453), and at 550 days (W550, N = 1946), while weight gains were gain from weaning to 365 days of age (WGW365, N = 3060), from weaning to 450 days (WGW450, N = 2764), from weaning to 550 days (WGW550, N = 1531), from 365 to 550 days of age (WG365550, N = 1528), from 365 to 450 days (WG365450, N = 2401), and from 450 to 550 days (WG450550, N = 1563). A full animal model was used for estimating the variance components, using the MTDFREML software. The dataset contained 18,688 animals with phenotypic measures and 35,188 animals in the relationship matrix. Heritability estimates for postweaning weights decreased with age. For W365, W450 and W550, respectively, the direct heritability estimates were 0.29 ± 0.061 , 0.25 ± 0.057 , 0.16 ± 0.060 , maternal heritability was 0.20 ± 0.035 , 0.18 ± 0.035 , 0.13 ± 0.052 , and total

heritability was 0.30, 0.35, 0.26. In this breed, maternal influence was found to be important up to 550 days of age. The greater genetic correlations between weights were observed for weights measured at shorter intervals. A large environmental effect was observed for weight gain between weaning and 550 days; this effect was greater for the gains between 365 and 550 days.

Key words: Beef cattle; Genetic and phenotypic correlations; Heritability; Maternal effect; Swiss cattle; Weight gain