Non-additive genetic effects on weights and performance of a Brazilian *Bos taurus* x *Bos indicus* beef composite

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**ABSTRACT.** The aim of the present study was to evaluate the heterosis effects on weaning weight at 205 days (WW, N = 146,464), yearling weight at 390 days (YW, N = 69,315) and weight gain from weaning to yearling (WG, N = 59,307) in composite beef cattle. The fixed models were: RM, which included contemporary groups, class of age of dam, outcrossing percentages for direct and maternal effects, and additive direct and maternal (AM) breed effects; R, RM model, minus AM breed effects, and H, RM model, minus additive breed effects. The estimates for W205 were in general positive (P < 0.01). The R and H models resulted in similar estimates, but they were very different from the ones estimated by the RM model. For W390, the R and H models resulted in general positive estimates (P < 0.05). For WG, the RM model resulted in...
general significant heterosis effects (P < 0.05). It can be concluded that the RM model seems to supply estimates of better quality (P < 0.01).

**Key words:** Beef cattle; Crossbreeding; Heterosis; Performance