Benefits generated by the use of crossbreeding in beef cattle are related to heterosis and complementary effects, not only in the productive aspect, but also in the qualitative aspect of the carcass, mainly in tropical conditions. The aim of this study was to evaluate the effect of sire breed on beef quality of crossbred cattle. Steers (n=89) and heifers (n=104) were produced along two years from mating ½ Nellore + ½ Angus and ½ Nellore + ½ Caracu and Nellore dams with Guzerá, Caracu and Senepol. The animals were raised in pastures of Brachiaria brizantha cv. Marandu receiving protein and protein-energy supplementation during the growing phase and males were finished receiving high concentrate levels (1.8% body weight) in pastures for 70 days. Cattle were slaughtered with a mean of 23 months of age. The slaughter body weight (SBW), hot carcass weight (HCW) and the carcass dressing percentage (CD) were measured at slaughter. Following 24 hour chill, Longissimus marbling score (12th-13th ribs section), carcass backfat score (1 to 5), subcutaneous backfat thickness (BFT) and Longissimus muscle area (LMA) were evaluated. Data were analyzed using mixed models in PROC MIXED (from SAS) at 5% significance. SW and HCW of progenies of Guzerá bulls (P<0.05) were higher than for the progenies of Senepol and Caracu bulls (469.6, 442.4 and 431.5 kg and 249.4, 233.3 and 227.8 kg, respectively). There was no difference among sire breeds (P>0.05) for carcass yield. For carcass backfat score, the paternal genetic group had an influence (P<0.05), with a better scores in progenies of Guzerá and Senepol bulls and lower for Caracu progenies (2.7, 2.7 and 2.2 points, respectively). No significant differences (P>0.05) were found for marbling score, BFT and LMA. Guzerá breed is related to heavier carcasses, where as Guzerá and Senepol breeds are associated with better carcass backfat.

**Keywords:** adapted taurine, backfat thickness, bulls, heterosis, marbling

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