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NELLORE: AN INTERESTING OPTION TO PRODUCE MEAT QUALITY[1]

NELORE: UMA INTERESSANTE OPÇÃO PARA PRODUZIR CARNE DE QUALIDADE[1]

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Brazil has the largest commercial herd of beef cattle and is among the major producers of beef. The Brazilian herd consists largely of Nellore cattle, this breed is labeled as a producer of meat without quality, mainly because of the tenderness is the most valued trait in beef. The objective of this study was to evaluate some characteristics related to meat quality in Nellore cattle. The experiment was conducted at the feedlot sector of the Department of Melhoramento e Nutrição Animal (FMVZ). Uncastrated calves of Nellore breed (n = 15), produced as recommended by the "Superprecoce" young beef cattle system, were utilized. The animals were submitted to feedlot at the 7 months of age and slaughtered between 12 and 15 months. The animals were fed a high-energy diet, having average daily gain of 1.4 kg, to explore the best of the growth phase. The animals were slaughtered with an average of 435 kg (14.5 @), and showed carcass yield of 57.5% and back fat thickness of 3.2 mm. After slaughter, the carcasses were cooled for 24 hours, and samples from *Longissimus* muscle were removed of the region between the 12th and 13th ribs. One sample was frozen and the other two samples were aged for 7 and 14 days, respectively. The efficiency of the aging process on the beef tenderness was evaluated through the shear force analysis (SF) and myofibrillar fragmentation index (MFI). Carcass yield was satisfactory compared to the ones found in the supply chain and the back fat thickness was sufficient to protect the carcasses during the chilling process, not allowing the occurrence of meat injuries. For the shear force analysis, the samples were roasted with thermometer coupled to control the temperature, and then chilled for 24 hours. Round samples were removed from the longitudinal muscle fibers orientation and sheared on a Warner-Bratzler shear force equipment. There was significant effect of the aging process on tenderness ($P<0.05$). The shear force mean observed for samples without aging was 4.45 kg, while those observed for samples aged for 7 and 14 days were 2.96 and 2.49 kg, respectively. No significant differences ($P>0.05$) in shear force was observed between 7 and 14 days of aging demonstrating that Nellore beef from young animals does not need longer than 7 days to become tender, shear force lower than 4.6 kg. The MFI is a biochemical analysis which measures the fragmentation of myofibrils and is closely related to meat tenderness. The results found for MFI followed the same standard detected for SF, having difference between aged and non-aged samples ($P<0.05$). The means were 62; 99; and 107 for samples without aging, aged for 7, and for 14 days, respectively. MFI values above 60 denote desirable tenderness in meat. The findings of this study show that the "Superprecoce" production system is an interesting tool to produce meat quality from Nellore animals.

Key words: *Bos indicus*, production system, superprecoce, tenderness.