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Color Stability of Longissimus Lumborum and Psoas Major Muscles from Grain-Finished Bos Indicus Cattle

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Objectives

Fresh beef color is a muscle-specific trait, which is highly influenced by animal genetics and feeding management. Brazil is a major beef producer, and 80% of Brazilian cattle are *Bos indicus* animals. Finishing beef cattle on grains is increasing in Brazilian production systems. While the effects of muscle source on color stability of pasture-finished *Bos indicus* cattle have been examined, its influence on color stability of grain-finished *Bos indicus* animals has not been evaluated. Therefore, the objective of this study was to examine the color stability of longissimus lumborum (LL) and psoas major (PM) muscles from grain-finished *Bos indicus* cattle.

Materials and Methods

The LL and PM muscles were obtained 24 h postmortem from eight ($n = 8$) carcasses of purebred Nellore (*Bos indicus*) bulls that were grain-finished for 90 d prior to harvest. The muscles were fabricated into 1.5-cm steaks. The steaks were individually packaged in polystyrene trays, overwrapped using oxygen-permeable polyvinyl chloride film, and stored at 4°C for

9 d in the darkness. Lightness (L^*), redness (a^*), yellowness (b^*), color stability (R630/580), and metmyoglobin reducing activity (MRA) were evaluated on d 0, 5, and 9. The effects of muscle source and storage were analyzed using XLSTAT with the repeated measure option. The differences among the means were detected at 5% significance level.

Results

The LL steaks demonstrated greater ($P < 0.05$) a^* , R630/580, and MRA values than PM ones on d 5 and 9 of storage. The PM steaks exhibited a decrease ($P < 0.05$) in a^* , R630/580, and MRA during storage, whereas a^* , R630/580, and MRA remained stable ($P > 0.05$) in LL steaks. In addition, LL and PM exhibited similar ($P > 0.05$) L^* and b^* values throughout the storage.

Conclusion

Muscle source influenced the color stability of fresh beef from grain-finished *Bos indicus* cattle. Muscle-specific strategies may be utilized to improve the color stability of beef from grain-fed *Bos indicus* animals.