

8th CIGR Section VI International Technical Symposium

“Advanced Food Processing and Quality Management”

Incorporating

**1st International Congress on Contemporary Food Science
and Engineering**

Selected, peer reviewed papers from the 8th International
CIGR technical symposium on Advanced Food Processing
and Quality Management

(CIGR 2013)

November 3-7, 2013, Guangzhou, China

Sensory Profiling and Acceptance of Matured Nelore (*Bos Indicus*)

Beef Using Check-All-That-Apply Question

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Abstract: Brazilian herd constitutes basically by zebu breeds, which are known by their less tender meat. One key factor related to the possibility of conquering new markets and the consolidation as a big producer and exporter is the improvement of meat quality in terms of tenderness. Maturation consists of allowing the inborn proteolytic enzymes to act under refrigerated conditions. This study aimed at the effect of the conventional maturation and HHP on the consumer acceptance and sensory properties of zebu beef. Three treatments were analysed: unprocessed; maturation (14 days at 2°C), and pressurized (200 MPa). Samples were cooked to 72 °C added 5% of their weight in salt, and were evaluated by 80 beef consumers. The overall and texture acceptance was evaluated using 9-point hedonic scales, and the appearance, aroma, flavour and texture attributes using the CATA-Check-All-That-Apply question through 17 terms. There was no significant difference in overall acceptance of the samples, but consumers preferred the texture of unprocessed and matured meats. Three consumer segments with similar responses were identified, which comprised 38, 17 and 16 individuals. This result demonstrated the heterogeneity in preference among participants, which may have contributed to the divergence in the perception of sensory characteristics. Segment 1 (n = 38) preferred the unprocessed and matured samples, while individuals from segment 2 (n = 17) liked the pressurized beef. On the other hand, segment 3 (n = 16) liked the unprocessed beef and disliked the others. Significant differences (p<0.05) were observed among the terms used in CATA, mainly related to the texture and aroma of samples. The pressurized beef was perceived by participants as juicy and having lower odd aroma. However, it was also described as fibrous and tough. The matured beef was perceived as less juicy and pale. We observed some inconsistencies in relation to the perception of sensory characteristics, which may be related to a greater or lesser preference of participants for the products, and the divergence of understanding of the attributes evaluated in this study, which used consumers instead of trained panellists.

Keywords: High hydrostatic pressure; Zebu beef; Maturation; Consumer acceptance; CATA