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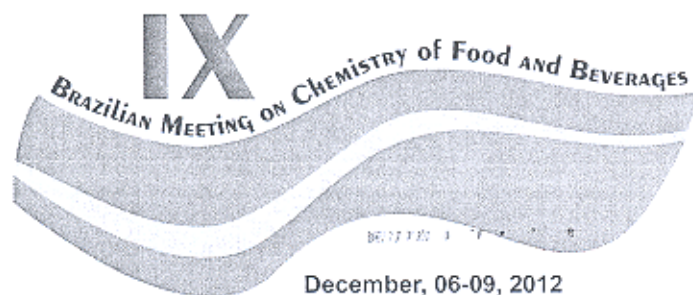
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Dedicated to
José Eduardo Dutra de Oliveira

Book of Abstracts

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Sensory analysis of beef from different genetic groups and production systems

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Introduction

Sensory analysis is an important tool to evaluate attributes that cannot be properly measured by objective methods, such as aroma, flavour and texture (tenderness and juiciness); as human perception is more complete, through assessors from a trained panel. Sensory characteristics such as tenderness, flavour and appearance are important to verify consumers' acceptability and need to be addressed on meat quality control. Many factors are involved on beef sensory quality and variations can be induced by production factors as breed, age, diet as well as technological factors as slaughter conditions, ageing time and cooking procedures [1]. Crossbreeding of two or more breeds from *Bos taurus* and *Bos indicus* species is an alternative for obtaining high quality meat from adapted animals to tropical climates. This study aimed to evaluate the sensory characteristics of beef from crossbred animals from tropical climate adapted and non-adapted breeds, finished on feedlot or pasture.

Material and Method

The sensory characteristics were evaluated in the following traits - crossbred heifers and steers from: 1) Angus or Limousin bulls and 1/2 Angus x 1/2 Nellore or 1/2 Simmental x 1/2 Nellore cows, finished on pasture or feedlot, with an average and live weight of 12.2 months and 425.3 kg and pasture finished animals, 17.7 months and 445.9 kg and 2) steers and heifers from crosses of Canchim, Hereford or Braunvieh bulls with 1/2 Angus x 1/2 Nellore, 1/2 Senepol x 1/2 Nellore or Nellore cows. Animals were raised at pasture or feedlot-finished for 3-4 months with an average age of 20 months and live weight of 492.1 kg. Animals were shipped the day before the slaughter to a commercial abattoir and held overnight with access to water. Carcasses were chilled overnight at 2°C. At 24 hours post mortem, the left half-carcass was cut between the 12 and 13th rib and 2.5 cm steaks were removed for sensory analyses and frozen. Before the sensory analysis, steaks were placed in a refrigerator at 5°C overnight. The following day, the steaks were removed from the refrigerator and cooked in a Tedesco combined oven model TC 06 (Tedesco, Caixas do Sul, RS, Brasil) at 170°C, until reach an internal temperature of 75°C. Each steak was cut into 1.5 cm cubes and each sample was randomly assigned to an ten-member trained taste panel. The samples for each panellist were presented in a balanced design assigned by Fizz

Software version 2.41 (Biosystemes, Couternon, France). Eight samples were evaluated per session. Attribute ratings were electronically collected using nine point descriptive scales for beef characteristic aroma/flavour (1= extremely bland; 9= extremely intense), strange aroma/flavour (1= extremely intense; 9= none), tenderness (1=extremely tough; 9= extremely tender) and juiciness (1=extremely dry; 9= extremely juicy). The experimental design was completely randomized, with bull genetic group (GGT), cow genetic group (GGV), sex (sexo) and production system (term) as fixed factors. The proposed model was analyzed by SAS 9.1 software [2].

Results e Discussion

For the feedlot and pasture - finished animals, bull (GGT) and sex (sexo) did not show effect for any of the sensory parameters ($P>0.05$). Beef from feedlot-finished animals showed a more intense characteristic beef aroma and flavour than pasture-finished animals. An interaction between GGT and sexo (sex) was found for SABEST (off-flavour), where Limousin female animals showed higher values of SABEST (off-flavour). Another interaction between GGT and term (production system) was found, on which feedlot-finished Angus animals showed a more intense beef flavour (SCCB) than pasture-finished Limousin animals. Sensory characteristics of the beef of animals from Canchim, Hereford or Braunvieh bulls with 1/2 Angus x 1/2 Nellore, 1/2 Senepol x 1/2 Nellore or Nellore cows were not affected by bull/cow genetic group and sex.

Conclusion

- The system production combined with bull genetic group had effect on aroma and flavour of crossbred animals, but texture characteristics were not affected.
- Sensory characteristics of the beef of animals from different crossbreeds were not affected by bull/cow genetic group and sex.

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