Consumer interest in health benefits of forage-finished beef has led to increased product demand. To date, little information on sensory acceptability and chemical characteristics of rib-eye steaks from forage-finished steers. Rib-eye steaks from 3 forage systems: S1 (bermudagrass+ryegrass, etc.); S2 (bermudagrass+berseem; etc.); S3 (bermudagrass+ryegrass+soybean+brown midili sorghum, etc.) and one C (commercial steer) were cooked by grilling and/or 2-sided grilling were evaluated for chemical composition and microbial safety.

Sensory acceptability was determined using a 9-point descriptive analysis. Data were also analyzed using PROC MIXED (SAS Institute Inc, Cary, NC) at a 0.05 level of significance. Statistical analysis: All data were analyzed at n=15 using the SAS software 9.1-ANOV was used to determine significant differences among means followed by the Tukey’s studentized range test. A Tukey’s HSD test was used to determine significant differences between 3 C-treatments: C (dual cooking) and 2-steak treatments (2-sided grilling and/or grilling) and C (dual grilling) consistently presented higher mean scores compared to other treatments. Differences in liking scores among 3 treatments could be due to differences in sensory panels or quality of the grasses used. Overall liking of all steaks was negatively affected by the lack of juiciness and tenderness. For overall appearance and overall beef flavor, no significant differences were found (P > 0.05) among steaks treatments regarding the mean consumer acceptances scores for fresh (Can 1) and finished (Can 2) steaks. Overall acceptances of cooked rib-eye steaks was also assessed.

Table 2 Mean values* for the proximate and fatty acids analyses of the rib-eye steaks

Table 5 Mean consumer acceptances scores for sensory attributes of rib-eye steaks cooked by the grilling method (fresh stored during 5 months)

Table 6 Mean consumer acceptances scores for overall appearance and tenderness of the cooked rib-eye steaks and the positive purchase intent (%) by treatments

Table 7 Mean consumer acceptances scores for sensory attributes of rib-eye steaks

Table 8 Mean values* of the proximate and fatty acid analyses of the fresh rib-eye steaks

Table 9 Mean values* of the proximate and fatty acid analyses of the cooked rib-eye steaks

Table 10 Mean consumer acceptances scores for overall appearance and overall beef flavor of the cooked rib-eye steaks and the positive purchase intent (%) by treatments

Table 11 Mean consumer acceptances scores for overall appearance of the cooked rib-eye steaks and the positive purchase intent (%) by treatments

** Significant differences between treatments.*** Percentage of total fatty acids identified.

The objective of this study was to evaluate the acceptability, chemical characteristics and microbiological safety of rib-eye steaks from forage-finished steers and one commercial steer cooked by grilling and/or 2-sided grilling using Hispanic consumers. In addition to this, acceptability of traditionally raised rib-eye steaks were also assessed.

Materials and methods: Sensory, feeding systems, and rib-eye steaks: Steers were blocked into one of the 3 groups (3 steers/group) and each group was randomly assigned one of three forage feeding systems (Table 1). Two steers per group (8 steers) were selected and harvested. Six steaks from each group (left and right) of each treatment (16 steaks) were used for the trial. All steaks were cut into 6-rib-eye steaks from the forage-finished beef consumer (first study) and the left side steaks were stored during 5 months at -20°C for the second study. Treatments to evaluate were fresh steaks from S1, S2, S3, and one commercially available grade rib-eye steaks (C, USDA Choice grade, West-Dale, Bourbon, LA, Table 1).

The results of this study showed that the acceptability, chemical characteristics and microbiological safety of rib-eye steaks from forage-finished steers and one commercial, beef were free of E. coli. This study demonstrated that forage-finished steaks are potentially healthier than grain-fed commercial steaks and have market potential toward Hispanic population.

** Significant differences between treatments.*** Percentage of total fatty acids identified.

** Significant differences between treatments.*** Percentage of total fatty acids identified.
Sensory acceptability and chemical characteristics of healthy rib-eye steaks from forage-finished steers

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2012-06-26