Consumer interest in health benefits of forage-finished beef has led to increased product demand. To date, little information has been provided on the sensory acceptability and chemical characteristics of rib-eye steaks from forage-finished steers. Rib-eye steaks from 3 forage-finishing systems (S1 [bermudagrass+n Ryegrass; S2 [bermudagrass+rye; S3 [bermudagrass+rye+berseem, red, and white clovers]; seeding rate of 23 kg/ha); and one C (commercial) steer, cooked by grilling and/or 2-sided grilling, were evaluated for chemical composition and microbial safety. Sensory/liking data were collected from 25 trained sensory panelists (March 2018 to May 2019). Data were analyzed using Proc MIXED (SAS, v.9.4). C (commercial) steers were higher in fat (52.0 vs. 23.0–24.9%), and lower protein (49.4%; v.73.5–74.4%), dry weight basis) contents compared with S1 and S2. S1 and S3 had higher omega-3 (49.05 vs. 0.09%; lower omega-6/omega-3 ratio (251.81 vs. 10.07); and lower PUFA (3.41–17.4 vs. 8.4%). The use of forage-finished steers and the health benefits when compared to grain-fed steers are potential differences in liking scores. Juiciness and OL scores of C steaks (both cooking methods) and S3(Grilling) were not significantly different. Purchase intent (after health benefits of forage-finished steaks was informed) increased from 62.73 to 69.85%. The mean drop of liking scores was 1.00 to 2.50 to the 2.90 OP scale, respectively, when cooked rib-eye steaks 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.

CONCLUSIONS

Consumer acceptance of different cooked rib-eye steaks (freshly harvested beef): For all sensory attributes, no significant difference was found between cooking methods except for C3 where the grilling method had a higher mean score compared to 2-sided grilling. For overall appearance and overall beef flavor, no significant differences were found (P = 0.05) among steaks treated regarding the mean consumer acceptance scores. For juiciness, tenderness and overall liking C (2-sided grilling and/or grilling) and S3(Grilling) consistently presented higher mean scores compared to other treatments. Differences among forage-finished steaks treatments could be due to differences in sensory panelists or quality of the grasses (1995). The purchase intent of all cooked steaks treatments was greater than 60%. Overall liking of S2 and S3 was negatively affected by the lack of juiciness and/or tenderness. Conversely, for C, less than 21.42% of the panelists considered the steak not juicy enough and less than 16.36% considered the steaks to be not tender enough. The attributes tenderness, juiciness and overall liking were the most important factors contributing to purchase intent of freshly harvested beef steaks.

CONSUMER ACCEPTABILITY OF DIFFERENT COOKED RIBEYE STEAKS (FRESHLY HARVESTED BEEF)

Consumer acceptance of different cooked rib-eye steaks (frozen stored for 5 months): For overall liking, S3 presented a significant higher mean score compared to C2 but was not significantly different to S1. The purchase intent of cooked S3 was 54.65% and 53.51%, for S1 and S2, respectively. The purchase intent of all steaks treatments was negatively affected by the lack of juiciness and/or tenderness. Conversely, for C, less than 21.42% of the panelists considered the steak not juicy enough and less than 16.36% considered the steaks to be not tender enough. The attributes tenderness, juiciness and overall liking were the most important factors contributing to purchase intent of frozen steaks.

CONSUMPTION OF DIFFERENT COOKED RIBEYE STEAKS (FRESHLY HARVESTED BEEF)

Consumer acceptance of different cooked rib-eye steaks (commercial steaks): For overall liking, S3 presented a significant higher mean score compared to 2-sided grilling method and S1 where the grilling method had a higher mean score compared to 2-sided grilling. For overall appearance and overall beef flavor, no significant differences were found (P = 0.05) among steaks treated regarding the mean consumer acceptance scores. For juiciness, tenderness and overall liking C (2-sided grilling and/or grilling) and S3(Grilling) consistently presented higher mean scores compared to other treatments. Differences among forage-finished steaks treatments could be due to differences in sensory panelists or quality of the grasses (1995). The purchase intent of all cooked steaks treatments was greater than 60%. Overall liking of S2 and S3 was negatively affected by the lack of juiciness and/or tenderness. Conversely, for C, less than 21.42% of the panelists considered the steak not juicy enough and less than 16.36% considered the steaks to be not tender enough. The attributes tenderness, juiciness and overall liking were the most important factors contributing to purchase intent of commercial steaks.

DISCUSSION

Cooking methods did not cause significant differences in liking scores. Purchase intent was affected by the fact of knowing the health benefits of forage-finished steaks. The acceptability of forage-finished beef was not affected by the frozen storage. The use of forage-finished steers are potentially healthier than grain-fed commercial steaks and have market potential toward Hispanic population.
Sensory acceptability and chemical characteristics of healthy rib-eye steaks from forage-finished steers

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