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Evaluation of the Quality Characteristics of Premium Pork Loins

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Objectives

The objective of this study was to determine the quality attributes of premium pork loins.

Materials and Methods

Pork loins ($n = 30$ /treatment) from 5 premium (PRE A, B, C, D, and E) and 2 commodity brands (COM A and B), were purchased from food service purveyors and commercial abattoirs. Loins were fabricated at 14 or 15 d postmortem. Prior to fabrication, loins were weighed in the package to obtain an initial weight. After unpackaging, loins were dried and reweighed to determine the amount of purge lost during storage (PL). After unpackaging, L^* , a^* and b^* values were collected on the ventral side of the loin using a Hunter Lab Miniscan spectrophotometer (Illuminant A, 2.54-cm aperture, 10° observer, Hunter Lab Associates Laboratory, Reston, VA). Each loin was evaluated for subjective color (SC) and marbling scores according to the National Pork Board Color and Marbling Standards. Loins were cut immediately posterior to the spinalis dorsi and the posterior end of the loin was used for all analyses. Loins were then fabricated into 2.54 cm chops. Chops were assigned to either: pH, instrumental (IC) and SC analysis, visual marbling (VM) and proximate analysis, Warner-Bratzler Shear force (WBSF), Slice Shear force (SSF) analysis or drip loss analysis. Chops designated for instrumental and visual color analysis were evaluated 30 min after slicing. Chops designated for WBSF and SSF were cooked on clam style grills to a peak temperature of 71°C .

Results

All PRE brands were similar ($P > 0.05$) with lesser ($P < 0.05$) SSF values than COM A, with the exception

of PRE C, which had greater ($P < 0.05$) SSF values than all other brands evaluated. Similar results were found for WBSF, with PRE C having greater ($P < 0.05$) WBSF values than all other treatments, and no difference ($P > 0.05$) found among the other PRE products. Commodity A was also tougher ($P < 0.05$) than all PRE brands, except PRE C for WBSF. For SC evaluations, the 2 COM products had a similar ($P > 0.05$) chop color score, however COM B, was lighter ($P < 0.05$) than all PRE brands. Loin SC was similar ($P > 0.05$) among all PRE brands, with only PRE C having a greater ($P < 0.05$) color score than PRE B. Commodity B had a lesser ($P < 0.05$) loin SC than all PRE products except PRE B and D. Also, COM B had a greater ($P < 0.05$) L^* value and lesser ($P < 0.05$) a^* value than all of the other brands. No difference ($P > 0.05$) in a^* was found among the PRE brands and only PRE D and E differed ($P < 0.05$) for L^* . Little variation was found among brands for pH, but COM B had a lesser ($P < 0.05$) pH than all of the other brands. Premium A and E had greater loin VM than all other brands, with no difference ($P > 0.05$) found among the 2 COM brands and the other 3 PRE brands. However, for chop VM, the 2 COM brands had less ($P < 0.05$) marbling than all PRE brands, except PRE B and C. For fat percentage, all brands had between 2 to 3% fat, with COM A having less ($P < 0.05$) fat than all PRE brands other than PRE B and D. Premium A, C and D had less ($P < 0.05$) weight lost as purge than any of the other brands.

Conclusion

The differences observed within the quality traits evaluated show variation among different premium pork loin brands. This provides evidence that consumers and retailers will receive different levels of pork quality and eating satisfaction dependent on the premium brand purchased.