

2018 Reciprocal Meat Conference – Consumer Topics

Meat and Muscle Biology™



Sensory Evaluation of California and Australian Skin-On Goat Meat from Chinese Consumers in California

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Keywords: Australian, Chinese, goat meat, sensory evaluation, skin-on processing

Meat and Muscle Biology 2(2):9

doi:10.221751/rmc2018.008

Objectives

Skin-on goat meat is preferred among many Asian cultures for its unique texture and flavor. The current U.S. market for skin-on goat meat is largely fulfilled by Australian imports. However, the significant growth of Asian population in the U.S., especially California, may provide an opportunity for the production of domestic skin-on goat meat. The objective of this study was to evaluate Chinese/Chinese American consumer's preference for California and Australian skin-on goat meat.

Materials and Methods

For this study, 5 Boer/dairy crossbred goats averaging 25.5 kg and 4 mo of age were purchased from local producers in Red Bluff, CA and shipped to California State University, Chico (CSUC) Meat Goat and Sheep Unit. After 2 d of acclimation period, all 5 goats were harvested at the CSUC Meats Laboratory on the same day. Goat carcasses were scalded and dehaired at 61°C for 3 to 4 min to remove > 95% of the hair after stunning and exsanguination. After 24 h of postmortem chilling at 2°C, hind legs were removed from all 5 carcasses and kept frozen at –20°C until fabrication. Five Australian imported skin-on goat hind legs of similar size and weight as the California goat hind legs were purchased from an Asian ethnic supermarket in Sacramento, CA and transported back to CSUC Meats Laboratory in frozen condition. Hind legs from both treatments were fabricated using a bandsaw and cut into 5 cm × 5 cm cubes. On the sensory evaluation day, 2 kg of cubes from each animal were cooked in ten identical pots (8 quart), broth (water, rice cooking wine, green onion, and salt) and cooking time

(2 h) on ten identical gas burners with the same heat setting (low). Twenty-eight Chinese/Chinese American consumer panelists were recruited from Chico, CA and evaluated appearance, flavor, juiciness, texture and overall liking of all 10 samples in 1 session on a 9-point hedonic scale (1 = Dislike extremely and 9 = Like extremely).

Results

Consumer panelists did not detect any difference in appearance (6.23 vs. 6.28; $P = 0.86$), flavor (6.06 vs. 6.29; $P = 0.59$), juiciness (6.32 vs. 6.21; $P = 0.82$), texture (6.08 vs. 6.24; $P = 0.76$) and overall liking (6.05 vs. 6.33; $P = 0.55$) between California and Australian skin-on goat meat. Background survey from this study further indicated that Chinese ethnic consumers considered quality and price as the 2 most important factors for meat purchasing decisions, whereas the country-of-origin of meat products had little to no importance to them.

Conclusion

While the preliminary results showed no apparent differences in sensory attributes between California and Australian skin-on goat meat for Chinese/Chinese American consumers, the survey data suggested that California skin-on goat meat must be competitively priced compared to its competitors to capture market share. Additional economic research on consumer's willingness-to-pay for California skin-on goat meat for Chinese and other Asian ethnic groups are needed to determine the sustainability of this niche meat product in the current market.