Objectives

This research was conducted to determine the factors that affect the millennial generation’s liking of beef, pork, and chicken and how those factors impact protein consumption.

Materials and Methods

Differences in beef, pork and chicken flavor attributes were created in beef Top Choice strip loin steaks (58.3°C and 80°C), beef Select outside round flat roasts (58.3°C and 80°C), boneless pork loins (62.7°C and 80°C), pork inside ham roasts (62.7°C and 80°C), chicken breasts (62.7°C and 80°C), and chicken thighs (62.7°C and 80°C) cooked utilizing a food-service flat grill or Crock-pot. An expert trained descriptive sensory attribute panel, a consumer central location test (CLT) and gas chromatography-mass spectrometry-olfactory (GC–MS-O) were utilized to determine flavor attributes and volatile aroma compounds. Texture attributes were evaluated by the expert descriptive attribute and CLT panels. Raw meat fatty acid composition, non-heme iron and myoglobin content, pH, and fat and moisture percentages were determined. Millennials (ages 18 to 34) or non-millennials (ages greater than 34) were selected to be either light (eat beef 2 to 4 times per mo) or heavy beef-eaters (eat beef 3 or more times per wk).

Results

Cooking method, cut, and internal temperature impacted ($P < 0.05$) meat descriptive flavor and texture attributes of beef, pork and chicken. The Crock-pot-cooked meat had less ($P < 0.05$) positive flavor attributes than the grilled meat. Generation or meat consumption consumer groups did not affect ($P > 0.05$) how consumers rated grill flavor, juiciness and tenderness. Light beef-eaters rated overall, flavor, and species flavor lower ($P < 0.05$) than heavy beef-eaters. Consumers liked beef regardless of generational segment or their consumption of beef. Millennials and non-millennials did not differ ($P > 0.05$) in their response to flavor of beef.

Regression equations for volatile aromatic compounds accounted for 53, 64, 63, 42, 48, 46, 54, 56, and 46% of the variation in beef identity, pork identity, chicken identity, brown/roasted, bloody/serumy, fat-like, metallic, liver-like, and umami, respectively. Overall flavor, tenderness, meat flavor, grill flavor, and juiciness liking accounted for 84% of the variation in overall consumer liking.

Conclusion

Millennial consumers have similar drivers of liking as non-millennials for beef, pork, and chicken when in a CLT. Additional research needs to be conducted to determine the factors that impact purchase decisions since liking was not different between millennial and non-millennial consumers.