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## Tenderness and Consumer Acceptance of Steaks Purchased at Farmers Markets in Texas

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### Objectives

Consumers make beef purchasing decisions based on price, expected palatability characteristics, and cattle production practices. The interest in production practices has increased demand for “local” foods, which creates a unique market for beef, especially small, niche producers who sell their products at Farmers Markets. Consumers expect that these beef products will meet their palatability expectations, including tenderness. Therefore, the objective of this study was to establish a baseline for tenderness of beef sold by Farmers Market vendors.

### Materials and Methods

Beef steaks ( $n = 39$  ribeyes,  $n = 39$  top loins, and  $n = 38$  top sirloins) were procured from 25 vendors at Farmers Markets ( $n = 21$ ) across Texas. When possible, information was collected at the Farmers Markets on breed, feeding regimen, and other production practices as well as a variety of marketing claims. To compare consumer acceptability of Farmers Market and retail beef, steaks ( $n = 20$  ribeyes,  $n = 20$  top loins, and  $n = 20$  top sirloins) were procured from 3 major retail chains (one store per chain) in the Bryan/College Station area. Farmers Market steaks were evaluated using Warner-Bratzler shear (WBS) force and consumer sensory panels; retail steaks were evaluated using consumer sensory panels. Steak measurements, including steak thickness, external fat thickness, and steak weight, were also collected.

### Results

While visually we observed a number of wedge-cut steaks, no significant differences were identified among cuts for mean WBS values. There also were no significant differences between cuts for sensory panel ratings (Table 1). However, when comparing consumer sensory panel ratings between sources, retail steaks received higher ratings ( $P < 0.05$ ) than Farmers Market steaks for overall liking and tenderness liking. Farmers Market ribeye and top loin steaks were thicker ( $P < 0.05$ ) than top sirloins. However, top sirloins were heavier ( $P < 0.05$ ) than top loins and ribeyes.

### Conclusion

Farmers Market vendors understand consumers' desire to know more about their food and, as a result, often provide information on their type of cattle and production practices. While no difference was seen in objective tenderness measurements between steak sources, reducing the number of wedge-cut products may aid small producers and niche vendors in improving consumer overall and tenderness liking ratings. Consumers value the opportunity to connect with their food but should not have to sacrifice palatability characteristics; therefore, increased uniformity in fabrication practices could enhance their eating experience.

**Table 1.** Least squares means (SE) for sensory panel ratings<sup>1</sup> by source and steak type main effects

Main effects	<i>n</i> <sup>2</sup>	Overall liking	Tenderness liking	Flavor liking	Juiciness liking
<b>Source</b>					
Farmers Market	59	5.9 <sup>b</sup> (0.16)	5.8 <sup>b</sup> (0.21)	6.1 (0.13)	6.1 (0.16)
Retail	60	6.4 <sup>a</sup> (0.16)	6.7 <sup>a</sup> (0.21)	6.2 (0.12)	6.1 (0.15)
<i>P</i> -value		0.0493	0.0058	0.6430	0.7853
<b>Steak Type</b>					
Ribeye	40	5.9 (0.19)	6.2 (0.25)	5.9 (0.15)	5.7 (0.19)
Top loin	39	6.4 (0.19)	6.4 (0.26)	6.4 (0.15)	6.3 (0.19)
Top sirloin	39	6.1 (0.19)	6.2 (0.25)	6.2 (0.15)	6.1 (0.19)
<i>P</i> -value		0.1798	0.7550	0.0871	0.0680

<sup>a-b</sup>Least squares means in the same column and main effect without common superscript letters differ ( $P < 0.05$ ).

<sup>1</sup>Sensory panel ratings for like/dislike: 9 = like extremely, 1 = dislike extremely; tenderness: 9 = very tender, 1 = not at all tender; juiciness: 9 = very juicy; flavor: 9 = extreme amount, 1 = none at all.

<sup>2</sup>Number of steaks.