Beef Consumer Attitudes in Kaua‘i County

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Summary
Beef production continues to be a consistently strong agricultural industry in Hawai‘i. To better understand local attitudes and behavior among a cross-section of residents, the Kauai Cattlemen’s Association conducted a brief survey at their beef promotion booth during the Kauai County Farm Bureau Fair in Līhuʻe in 2013, 2014, and 2015. From about 200 respondents each year, survey results trends are as follows:

- Kaua‘i residents (>87% total)
- Beef is bought most often per week compared to other proteins (~50% total)
- Taste preference drives purchasing over cost, health benefits, or other factors (>42% total)
- At home, steaks were cooked most often compared to other types of beef (>60%)
- Tenderness and secondarily flavor rank as lead factors in steak eating quality

Following this preliminary assessment of largely positive attitudes towards beef consumption, future research should focus on deeper demographic analysis, taste panel comparison of local and other types of beef, market surveys (demand by different consumer groups), local production trends (supply), and attitudes towards different beef types on the market (cuts, organic, natural, local, grass-finished, etc.).

Introduction
As one of the oldest commercial agriculture industries of modern Hawai‘i with the introduction of cattle in 1793, beef cattle production currently ranks as the third highest agricultural product in the state (Henke 1929, USDA-NASS 2013). Beef cattle production as compared to other agricultural sectors has remained relatively constant amid many shifting uncertainties in local, national, and global production and marketing. With the opening of a new slaughter and processing plant and the expansion of two others in Kaua‘i County, understanding local trends...
in beef consumer attitudes will help shape production and marketing efforts. As a result, the Kauai Cattlemen’s Association (KCA) conducted a brief survey of visitors to their beef promotion booth at the Kauai County Farm Bureau Fair for the last three years (Figure 1). The purpose of this publication is to summarize and interpret the findings of these surveys. The majority of respondents claimed Kaua’i County residency; therefore, to focus on this demographic, only responses from Kaua’i County respondents are reported in this publication.

**Methods**

Individuals visiting the KCA beef promotion booth at the Kauai County Farm Bureau Fair at Vidinha Stadium in Līhuʻe in 2013, 2014, and 2015 filled out a brief survey. Upon completing the survey, respondents received a free beef sample prepared by KCA members. Distribution of beef samples continued well after running out of survey forms. The survey consisted of four multiple-choice questions about preference and one concerning residence:

- What do you buy the most of each week? Circle ONE: a) Beef b) Chicken/poultry c) Pork d) Fish e) Other protein
- What drives that purchase? Circle ONE: a) Cost b) Taste preference c) Health benefits d) Other: __________
- What type of beef do you cook the most? Circle ONE: a) Ground beef b) Roasts c) Steaks d) Stew meat
- What is MOST important for a good steak? Circle ONE: a) Tenderness b) Flavor c) Juiciness d) Other: __________
- What is your U.S. zip code or home country?

**Results**

**Demographics**

In each year, the majority of respondents (>87%) claimed Kaua’i residency (Table 1). Līhuʻe and Kapa’a residents accounted for >60% of respondents each year (Table 2).

**Most-Purchased Protein per Week**

Roughly half of Kaua’i respondents claimed to buy beef the most per week (Table 3, Figure 2).

In total, beef and chicken account for >78% of reported weekly purchases.

**Lead Factor Driving Purchases**

Taste preference is the leading single factor driving protein purchases, with health benefits and cost being distant alternative motivators (Table 4, Figure 3).

Notably, respondents who indicated buying chicken/poultry or fish the most per week are driven by perceived health benefits; In contrast, beef purchasers are strongly

| Table 1. Summary of state or country of residence as reported by survey respondents. |
|---------------------------------|----------------|----------------|----------------|
| Residence | 2013 Count & % of total | 2014 Count & % of total | 2015 Count & % of total |
| Hawaii’i | 180 & 93.3 | 178 & 88.1 | 181 & 89.6 |
| California | 3 & 1.6 | 6 & 3.0 | 12 & 5.9 |
| Washington | 3 & 1.6 | 2 & 1.0 | 3 & 1.5 |
| Canada | 2 & 1.0 | - | - |
| Florida | 1 & 0.5 | - | - |
| Oregon | 1 & 0.5 | - | - |
| Utah | 1 & 0.5 | - | - |
| New Jersey | - | 3 & 1.5 | - |
| Arizona | - | 2 & 1.0 | - |
| Colorado | - | 1 & 0.5 | - |
| Idaho | - | 1 & 0.5 | - |
| Iowa | - | - | 2 & 1.0 |
| No response | 2 & 1.0 | 9 & 4.5 | 4 & 2.0 |
| Total | 193 | 202 | 202 |
motivated by taste preference (>59% each year; Table 5). Low drivers, as specified in the “Other” category, were indicated as local, organic, and grass-fed.

**Beef Cooked at Home**

Steaks are the clear top beef choice (>60%) for home consumption, with ground beef a distant second (~20%) over roasts and stew meat (Table 6, Figure 4).

**Most Important for a Good Steak**

Tenderness was the clear top factor selected for a good steak in 2013 and 2014, with tenderness and flavor evenly split in 2015 (Table 7, Figure 5).

Juiciness, though still nominal, was much more emphasized as an important factor in 2015 versus previous years.

These overall trends in steak preference were similar among those who indicated they cooked steak the most at home over other types of beef.

**Discussion**

While these data reflect preferences of a small pool from the population of Kaua‘i County, the fairly consistent responses over three years gives a preliminary indication of trends in beef purchasing and use in this community.

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**Table 2. Distribution of Kaua‘i County respondents.**

<table>
<thead>
<tr>
<th>Town</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kapa’a</td>
<td>55</td>
<td>47</td>
<td>53</td>
</tr>
<tr>
<td>Līhuʻe</td>
<td>53</td>
<td>56</td>
<td>62</td>
</tr>
<tr>
<td>Kōloa</td>
<td>17</td>
<td>17</td>
<td>7</td>
</tr>
<tr>
<td>Kalāheo</td>
<td>12</td>
<td>7</td>
<td>8</td>
</tr>
<tr>
<td>Anahola</td>
<td>7</td>
<td>2</td>
<td>7</td>
</tr>
<tr>
<td>Lāwaʻi</td>
<td>7</td>
<td>10</td>
<td>-</td>
</tr>
<tr>
<td>‘Eleʻele</td>
<td>4</td>
<td>3</td>
<td>8</td>
</tr>
<tr>
<td>Hanapēpē</td>
<td>4</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Kilauea</td>
<td>3</td>
<td>6</td>
<td>17</td>
</tr>
<tr>
<td>Keālia</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Kekaha</td>
<td>2</td>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td>Princeville</td>
<td>2</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>Waimea</td>
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<td>4</td>
<td>2</td>
</tr>
<tr>
<td>Hanalei</td>
<td>1</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Hanamāʻulu</td>
<td>-</td>
<td>2</td>
<td>-</td>
</tr>
<tr>
<td>Kaumakani</td>
<td>-</td>
<td>1</td>
<td>-</td>
</tr>
<tr>
<td>Makaweli</td>
<td>-</td>
<td>-</td>
<td>1</td>
</tr>
<tr>
<td>Total</td>
<td>171</td>
<td>170</td>
<td>178</td>
</tr>
</tbody>
</table>

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**Table 3. Kaua‘i County respondents’ responses to protein purchase question.**

<table>
<thead>
<tr>
<th>Protein</th>
<th>2013 Count</th>
<th>2013 % of total</th>
<th>2014 Count</th>
<th>2014 % of total</th>
<th>2015 Count</th>
<th>2015 % of total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beef</td>
<td>95</td>
<td>55.6</td>
<td>86</td>
<td>50.6</td>
<td>86</td>
<td>48.3</td>
</tr>
<tr>
<td>Chicken/poultry</td>
<td>40</td>
<td>23.4</td>
<td>47</td>
<td>27.7</td>
<td>62</td>
<td>34.8</td>
</tr>
<tr>
<td>Fish</td>
<td>12</td>
<td>6.2</td>
<td>15</td>
<td>8.8</td>
<td>13</td>
<td>7.3</td>
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<tr>
<td>Pork</td>
<td>8</td>
<td>4.7</td>
<td>9</td>
<td>5.3</td>
<td>6</td>
<td>3.4</td>
</tr>
<tr>
<td>Other protein</td>
<td>3</td>
<td>1.8</td>
<td>1</td>
<td>0.6</td>
<td>4</td>
<td>2.2</td>
</tr>
<tr>
<td>Multiple answers</td>
<td>13</td>
<td>7.6</td>
<td>12</td>
<td>7.1</td>
<td>7</td>
<td>3.9</td>
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<tr>
<td>Total</td>
<td>171</td>
<td>100</td>
<td>170</td>
<td>100</td>
<td>178</td>
<td>100</td>
</tr>
</tbody>
</table>

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**Figure 2. Summary of Kaua‘i County responses to most-purchased protein per week.**
These data suggest that Kaua’i County residents strongly prefer beef steaks to other forms of beef and other available proteins, and that tenderness is a leading factor for consumer satisfaction. Previous assessments have shown that on average locally produced ribeye steaks available at retail on Kaua’i are considered sufficiently tender, though consistency in supplying tender beef needs improvement (Stevenson et al. 2012, Stevenson et al. 2010). Beef studies elsewhere in the state have shown a general improvement in Hawai’i beef tenderness (Kim et al. 2015, Fukumoto and Kim 2007). As the Hawai’i beef industry continues to develop production and marketing, an in-depth study of a wider array of variables linked to more specific demographics is warranted. Specifically, some areas to study in the future among Hawai’i residents include the following:

- Attitudes toward local versus imported beef
- Attitudes toward forage-finished, organic, natural, and other designations of beef
- Degree of willingness to pay for various guarantees or other assurances, e.g., certified tender, local, organic, forage-finished, etc.
- Self-reported purchasing habits as compared to retail sales data
Table 6. Kaua‘i County residents’ type of beef purchased for home use.

<table>
<thead>
<tr>
<th>Beef Type</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Count</td>
<td>% of total</td>
<td>Count</td>
</tr>
<tr>
<td>Steaks</td>
<td>105</td>
<td>61.4</td>
<td>107</td>
</tr>
<tr>
<td>Ground beef</td>
<td>27</td>
<td>15.8</td>
<td>40</td>
</tr>
<tr>
<td>Roasts</td>
<td>13</td>
<td>7.6</td>
<td>9</td>
</tr>
<tr>
<td>Stew meat</td>
<td>9</td>
<td>5.3</td>
<td>5</td>
</tr>
<tr>
<td>Multiple answers</td>
<td>16</td>
<td>9.4</td>
<td>9</td>
</tr>
<tr>
<td>No answer</td>
<td>1</td>
<td>0.6</td>
<td>-</td>
</tr>
<tr>
<td>Total</td>
<td>171</td>
<td></td>
<td>170</td>
</tr>
</tbody>
</table>

Table 7. Kaua‘i County residents’ preferences for steak eating quality.

<table>
<thead>
<tr>
<th>Quality</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Count</td>
<td>% of total</td>
<td>Count</td>
</tr>
<tr>
<td>Tenderness</td>
<td>80</td>
<td>46.8</td>
<td>74</td>
</tr>
<tr>
<td>Flavor</td>
<td>46</td>
<td>26.9</td>
<td>49</td>
</tr>
<tr>
<td>Juiciness</td>
<td>12</td>
<td>7.0</td>
<td>14</td>
</tr>
<tr>
<td>Other: Local beef</td>
<td>3</td>
<td>1.8</td>
<td>-</td>
</tr>
<tr>
<td>Other: Marbling</td>
<td>2</td>
<td>1.2</td>
<td>-</td>
</tr>
<tr>
<td>Other: Grass-fed</td>
<td>1</td>
<td>0.6</td>
<td>1</td>
</tr>
<tr>
<td>Other: Healthy</td>
<td>-</td>
<td>-</td>
<td>1</td>
</tr>
<tr>
<td>Other: Non-specific</td>
<td>-</td>
<td>-</td>
<td>2</td>
</tr>
<tr>
<td>No answer</td>
<td>-</td>
<td>-</td>
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<tr>
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<td>15.8</td>
<td>29</td>
</tr>
<tr>
<td>Total</td>
<td>171</td>
<td></td>
<td>170</td>
</tr>
</tbody>
</table>

Figure 4. Kaua‘i County residents’ type of beef cooked at home.

- Any general differences in attitudes and preferences among consumer groups, e.g., restaurants, home users, schools, as well as basic demographics such as gender, race, or age
- Evaluation of choice of protein and beef cuts against household income, gender, religion, or other demographic factors.

Figure 5. Kaua‘i County residents’ preferences for steak eating quality.
• Taste-testing panel to determine local forage-finished beef attributes

• Data on the production (slaughter numbers) of quality grass-finished beef production on Kaua‘i (supply)

• Market survey of demand of local beef on Kaua‘i.

**Literature Cited**


**Acknowledgements**

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