The Characteristics Affecting Consumers’ Perceptions and Preferences for U.S. versus Imported Beef

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Country-of-Origin Labeling

- **Country-of-Origin is a Credence Attribute** (Caswell, 1998; Loureiro & McCluskey, 2000)
- **Mandatory COOL may be an appropriate policy tool if:**
  - Asymmetric information exists
  - COOL increases demand for product
  - Disclosure of possible negative quality attributes does not exceed the benefits (Golan et al, 2000)
- **Some Consumer, Meat Processors, Wholesalers, Retailers and Restaurants prefer COOL** (Schupp & Gillespie, 2001)

- A Select Group of 243 Colorado Consumers along the front range of Colorado
- in A Survey Conducted In Grocery Stores Would:
  - Pay $183.77 Per Year For Mandatory COOL
  - Pay $1.53/lb. More for Steak
    - 38% Premium for Steak
  - $0.70/lb. More for Hamburger
    - 58% Premium for Hamburger
What is Mandatory COOL?

- Title X of the 2002 Farm Bill Amends the Agricultural Marketing Act of 1946
- “…a Retailer of a Covered Commodity Shall Inform Consumers, at the Final Point of Sale of the Covered Commodity to Consumers of the Country Of Origin Of the Covered Commodity”

- U.S. born, raised and slaughtered beef: 88.7%
- Mexican born and U.S. raised and slaughtered beef: 2.2%
- Canadian born and raised and U.S. slaughtered beef: 2.7%
- Canadian born, raised and slaughtered beef: 4.7%
- Canadian born, raised and slaughtered beef: 4.7%
- Mexican born and U.S. raised and slaughtered beef: 2.2%
2002 Supply of Beef Trimmings for U.S. Consumption

(source: Plains and Grimes, 2003)

- U.S. born, raised and slaughtered beef: 76.6%
- Australian Beef: 8.5%
- New Zealand Beef: 4.5%
- Canadian Beef: 3.3%
- Canadian born, raised and U.S. slaughtered beef: 2.3%
- Mexican born and U.S. raised and slaughtered beef: 1.9%
- Brazilian Beef: 1.5%
- Canadian born and U.S. raised and slaughtered beef: 1.5%
Current Objectives

• To Determine
  – Consumers’ preferences and WTP for COOL and U.S.A. Guaranteed Label
  – Attributes important to consumers’ purchase decisions
  – Consumers’ preferences and WTP for steak after tasting
    • Canadian vs. US
    • Australia vs. US
  – Segment of consumers WTP premium for preference
Methods

- 273 Consumers in Denver and Chicago
  - Paid $50 to participate
  - Surveyed on WTP for COOL Hamburger and Steak
  - Experimental Process
    - Random $n$th Price Auction
    - Bid on “USA Guaranteed: Born and Raised in the U.S.” Labeled & Unlabeled Steak
    - Tasted, Rated and Bid on pairs of steak with tenderness and marbling held constant within a pair
      - Canadian vs. US
      - Australia vs. US
Consumer Demographics

- 87% Caucasian
- 73% Female
- ~40 yrs old
- Married
- 63% Children < 18 at home
- Income $50-$60 K
- Employed
- Average Education of Some College
- 70% Prefer to Consume Beef
Important Food Characteristics

Loureiro and Umberger

Extremely to Very Desirable
1. Fresh
2. Food Safety Inspection
3. High Quality
4. Lean
5. Visual Presentation

Very to Somewhat Desirable
7. Source Assurance
9. Beef Raised in your region of the country

Umberger, Feuz, Calkins & Sitz

Extremely to Very Desirable
1. Fresh
2. Food Safety Inspection
3. Color
4. Price
5. Leanness

Very to Somewhat Desirable
9. COOL
11. Source Assurance
13. Beef Raised in your region of the country
Consumers’ Rationale for Preferring COOL (75% Preferred Labeled, 22% Indifferent)

- **Safety and Health of Meat, 45%**
  - U.S. better regulations and standards
  - Mad Cow Disease

- **More Information** *(Awareness of conditions, Identify meat if Outbreak Occurs)*, **31.8%**

- **Support Producers (U.S.), 21%**

- **Location** *(Prefer from certain countries, Learn about countries)*, **12.5%**

- **Quality of Meat Higher in U.S., 11%**

- **Freshness of Meat Closer to Home, 4.5%**
Survey WTP Results: Umberger, Feuz, Calkins, Sitz

- **“COOL Steak”**
  - 73% Consumers were WTP Premium
  - $0.42 over $4.00/lb
  - 11% Premium for label

- **“COOL Hamburger”**
  - 72% Consumers were WTP Premium
  - $0.36/lb over $1.50/lb
  - 24% Premium for label
  - Higher than for Steak

- Overall Premiums Smaller than Loureiro and Umberger
Visual Auction WTP Results: “U.S. Guaranteed Steak” versus Unlabeled Steak

- **Chicago**
  - $1.03/lb more for “U.S. Guaranteed Steak” (base = $4.53/lb)
  - 23% Premium for labeled steak

- **Denver**
  - $0.57/lb more for “U.S. Guaranteed Steak” (base = $4.12/lb)
  - 14% Premium for labeled steak

- **Overall**
  - $0.81/lb more for “U.S. Guaranteed Steak” (base = $4.33/lb)
  - 19% Premium for labeled steak

- Chicago Premiums were Larger than Denver
31% WTP NO Premium

12% WTP 10-15%

11% WTP 20-25%

9% WTP >100%

Premium for U.S.A. Labeled Steak (% over Unlabeled)
Who’s WTP for COOL?: Logit Model

$$\text{USAPREF}_i = \beta_0 + \beta_1 \text{Location}_i + \beta_2 \text{Age}_i + \beta_3 \text{Gender}_i + \beta_4 \text{Ethnic}_i + \beta_5 \text{Kids}_i + \beta_6 \text{Income}_i + \beta_7 \text{Educate}_i + \beta_8 \text{Safety}_i + \beta_9 \text{Source}_i + \beta_{10} \text{COOL}_i + \beta_{11} \text{Local}_i + \beta_{12} \text{Fresh}_i + \beta_{13} \text{Organic}_i + \beta_{14} \text{BeefEat}_i + \beta_{15} \text{NonGrocery}_i + \beta_{16} \text{USDAGRADE}_i + \varepsilon_i.$$ 

- Consumers concerned about Food Safety and Source Assurance
- Females with children
- Lower Income
- Higher Educated
- Beef eaters
- Consumers purchasing beef at alternative locations
Can Consumers Perceive a Difference in Flavor? : Australian vs. Domestic

![Graph showing flavor perception comparison between Australian and Domestic beef]

- **Flavor**: 5.67 (Australian), 4.57 (Domestic)
- **Juiciness**: 5.19 (Australian), 4.49 (Domestic)
- **Tenderness**: 5.16 (Australian), 4.37 (Domestic)
- **Overall Acceptability**: 5.37 (Australian), 4.32 (Domestic)

*Rating (1 = unacceptable, 8 = extremely acceptable)*
Can Consumers Perceive a Difference in Flavor? : Canadian vs. Domestic

<table>
<thead>
<tr>
<th></th>
<th>Flavor</th>
<th>Juiciness</th>
<th>Tenderness</th>
<th>Overall Acceptability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Domestic</td>
<td>5.93</td>
<td>5.51</td>
<td>5.64</td>
<td>5.78</td>
</tr>
<tr>
<td>Canadian</td>
<td>5.64</td>
<td>5.36</td>
<td>5.35</td>
<td>5.47</td>
</tr>
</tbody>
</table>

Rating (1 = unacceptable, 8 = extremely acceptable)
Average Willingness-to-Pay: Australian vs. US

Average Bids: Australian vs. US

<table>
<thead>
<tr>
<th></th>
<th>Domestic</th>
<th>Australian</th>
<th>Difference</th>
<th>Premium</th>
</tr>
</thead>
<tbody>
<tr>
<td>Denver</td>
<td>$3.61</td>
<td>$2.75</td>
<td>$1.04</td>
<td>38%</td>
</tr>
<tr>
<td>Chicago</td>
<td>$3.90</td>
<td>$2.56</td>
<td>$1.34</td>
<td>45%</td>
</tr>
<tr>
<td>Overall</td>
<td>$3.75</td>
<td>$2.57</td>
<td>$1.19</td>
<td>46%</td>
</tr>
</tbody>
</table>
Average Willingness-to-Pay: Canadian vs. US

Average Bids: Canadian vs. US

<table>
<thead>
<tr>
<th>Location</th>
<th>Domestic</th>
<th>Canadian</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Denver</td>
<td>$3.73</td>
<td>$3.41</td>
<td>$0.25</td>
</tr>
<tr>
<td>Chicago</td>
<td>$4.29</td>
<td>$3.76</td>
<td>$0.53</td>
</tr>
<tr>
<td>Overall</td>
<td>$4.00</td>
<td>$3.62</td>
<td>$0.39</td>
</tr>
</tbody>
</table>

Premium:
- Denver: 7%
- Chicago: 14%
- Overall: 11%
Are Consumers Willing-to-Pay for their Taste Preference?: Australian vs. US

<table>
<thead>
<tr>
<th></th>
<th>Domestic Preferring</th>
<th>Australian Preferring</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average Bid ($/lb)</td>
<td>$5.04</td>
<td>$4.82</td>
<td>$0.22</td>
</tr>
<tr>
<td>N = 139</td>
<td>60%</td>
<td>17%</td>
<td></td>
</tr>
<tr>
<td>Domestic Bid</td>
<td>$2.45</td>
<td>$2.74</td>
<td></td>
</tr>
<tr>
<td>Australian Bid</td>
<td>$2.59</td>
<td>$2.08</td>
<td></td>
</tr>
<tr>
<td>N = 40</td>
<td>17%</td>
<td>23%</td>
<td></td>
</tr>
<tr>
<td>N = 54</td>
<td>$1.18</td>
<td>$1.18</td>
<td>$0.00</td>
</tr>
</tbody>
</table>
Are Consumers Willing-to-Pay for their Taste Preference?: Canadian vs. US

<table>
<thead>
<tr>
<th>Average Bid ($/lb)</th>
<th>Domestic Bid</th>
<th>Canadian Bid</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Domestic Preferring</td>
<td>$5.20</td>
<td>$3.17</td>
<td>$2.03</td>
</tr>
<tr>
<td>Canadian Preferring</td>
<td>$5.20</td>
<td>$3.59</td>
<td>$1.61</td>
</tr>
<tr>
<td>Indifferent</td>
<td>$2.07</td>
<td>$2.07</td>
<td>$0.00</td>
</tr>
</tbody>
</table>
Predicting Flavor Preferences

\[ TASTE\;PREF_i = \beta_0 + \beta_1 \text{Location}_i + \beta_2 \text{Gender}_i + \beta_3 \text{Ethnic}_i + \beta_4 \text{Pr iceDrive}_i + \beta_5 \text{Income}_i + \beta_6 \text{BeefEat}_i + \beta_7 \text{MarryKids}_i + \beta_8 \text{Age}_i + \beta_9 \text{GradeDK}_i + \beta_{10} \text{Educate}_i + \beta_{11} \text{NoEmploy}_i + \varepsilon_i. \]

- **Multinomial Logit Model**
- **Australian vs. US**
  - Domestic Preferring: Chicago, Higher Income, Married with Kids, Older
  - Australian Preferring: non Chicago, Lower Income
- **Canadian vs. U.S.**
  - Domestic Preferring: Caucasian, Married with Kids, Older
  - Canadian Preferring: Non Caucasian
Summary

- Consumers WTP significant Premium for COOL
- Premium appears to be higher when the label states “U.S. Certified” or “U.S. Guaranteed”
- 11% Premium for COOL Steak
- 24% Premium for COOL Hamburger
- 19% Premium for U.S. labeled
- WTP is significantly Higher for Hamburger
Who’s WTP for COOL?

- Consumers concerned about Food Safety and Source Assurance
- Females with children
- Lower Income
- Higher Educated
- Beef eaters
- Consumers who purchase beef at alternative locations
29% of consumers consistently preferred the taste of domestic to imported steak. Likely due to similarities in US and Canadian Production Processes. Niche for Australian or Imported Grass-Fed Product. Canada could compete with US if same quality.
COOL Implications

- Will COOL increase beef demand?
- Appears consumers don’t understand that it’s not food safety
- Placement of label and other meat attributes
  - (food safety concerns important)
- What about other meat products?
- U.S. versus major importers?
- Do premiums cover costs?
Questions?