The Consumer Market for Chicken Raised Without Antibiotics, 2012-16

Elina T. Page
Gianna Short, Maria Bowman, Stacy Sneeringer
Economic Research Service
US Department of Agriculture

September 7, 2018

The findings and conclusions in this preliminary presentation have not been formally disseminated by the U.S. Department of Agriculture and should not be construed to represent any agency determination or policy. The analysis, findings, and conclusions expressed in this presentation should also not be attributed to IRI.

This research was supported by the intramural research program of the U.S. Department of Agriculture, Economic Research Service.
Market Trends for Antibiotic Use

- Increasing consumer concern about antibiotic use in meat and poultry production.
- Many producers, retailers, and fast food chains now offer meat and poultry products that have never been treated with antibiotics.
Voluntary Meat and Poultry Label Claims

• Regulated by USDA Food Safety and Inspection Service

• FSIS defines standards for foods (e.g., meatballs, Salisbury steak, salami) and labels

• For animal raising claims, firm must provide supporting paperwork that the claim is truthful and not misleading

• For Raised Without Antibiotics [RWA] claim, source animals cannot be administered antibiotics in their feed, water, or by injections

• Examples of RWA claim: No Antibiotics Administered, Raised Without Antibiotics, No Added Antibiotics Ever
Research Objectives

Characterize the market for chicken products labeled RWA using retail and consumer sales data:

- Share of sales over time
- Price premiums
- Consumer demographics and preferences
# Primary Data

## IRI InfoScan
- retail scanner data
- weekly food purchase data from 48,000+ stores
- covers approximately 50% of food sales
- expenditures and quantities of barcoded and random weight food products
- over 6.6 billion observations per year

## IRI Consumer Network
- household scanner data
- weekly food purchase data from 100,000+ households
- includes demographic and geographic data
- over 72 million observations per year
Overcoming Data Limitations

• Incomplete information on RWA label claims
  ▪ Append external data on label claims from:
    • Label Insight
    • FSIS Label Submission and Approval System Data
    • Independent data collection

• Label claims cannot be appended to random-weight products
  ▪ Analyze uniform-weight markets for the following chicken market segments:
    • Classic cuts
    • Processed chicken products
    • Chicken sausage
## Market Segments

<table>
<thead>
<tr>
<th>Segment</th>
<th>Description</th>
<th>Examples</th>
</tr>
</thead>
</table>
| Classic cuts of chicken  | • Raw/uncooked  
• No breading, sauce, or added ingredients other than broth or light seasoning | Plain breasts, tenders, thighs, drumsticks, wings, whole chickens, liver, splits, quarters, etc. |
| Processed                | • All non-sausage chicken products that have undergone additional processing  
• Cooked, breaded, sauced, stuffed, etc.  
• Does not include meals, soups, sandwiches, etc. made with chicken | Nuggets, ground chicken, buffalo wings, etc.  |
| Chicken Sausage          | • May include other ingredients mixed into sausage  
• May be raw, cured, or fully cooked  
• Does not include hot dogs/franks | Chicken sausage made with apple and feta      |
Nationally representative segment market shares of chicken expenditures from the IRI Consumer Network, 2012-16

<table>
<thead>
<tr>
<th>Year</th>
<th>Uniform weight, classic</th>
<th>Uniform weight, processed</th>
<th>Uniform weight, sausage</th>
<th>Random weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012</td>
<td>17%</td>
<td>35%</td>
<td>2%</td>
<td>2%</td>
</tr>
<tr>
<td>2013</td>
<td>16%</td>
<td>34%</td>
<td>2%</td>
<td>2%</td>
</tr>
<tr>
<td>2014</td>
<td>13%</td>
<td>25%</td>
<td>1%</td>
<td>2%</td>
</tr>
<tr>
<td>2015</td>
<td>13%</td>
<td>25%</td>
<td>2%</td>
<td>2%</td>
</tr>
<tr>
<td>2016</td>
<td>12%</td>
<td>25%</td>
<td>2%</td>
<td>2%</td>
</tr>
</tbody>
</table>
Average Price Premiums Over Conventional Products

Classic

- Organic
- RWA

Processed

- Organic
- RWA

Sausage

- Organic
- RWA
## Consumer Demographics

<table>
<thead>
<tr>
<th></th>
<th>Conventional</th>
<th>RWA</th>
<th>Organic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female Household Head</td>
<td>80.0%</td>
<td>82.4%*</td>
<td>80.2%†</td>
</tr>
<tr>
<td>Average Household Size</td>
<td>2.76</td>
<td>2.82*</td>
<td>2.81</td>
</tr>
<tr>
<td>Children Under 18</td>
<td>36.2%</td>
<td>39.9%*</td>
<td>39.6%*</td>
</tr>
<tr>
<td>Children Under 6</td>
<td>15.8%</td>
<td>18.0%*</td>
<td>19.9%*</td>
</tr>
<tr>
<td>Median Household Income</td>
<td>$50,000-59,999</td>
<td>$70,000-99,999*</td>
<td>$70,000-99,999*</td>
</tr>
<tr>
<td>Sample Size</td>
<td>80,423</td>
<td>12,296</td>
<td>1,480</td>
</tr>
</tbody>
</table>

* indicates significant difference from conventional population at the 5 percent level
† indicates significant difference between RWA and organic population at the 5 percent level
### Consumer Preferences

**Health Concerns:**
Antibiotics used in meat production.

<table>
<thead>
<tr>
<th>Concern Level</th>
<th>Conventional</th>
<th>RWA</th>
<th>Organic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very concerned</td>
<td>27.6%</td>
<td>35.4%*</td>
<td>46.0%**†</td>
</tr>
<tr>
<td>Somewhat concerned</td>
<td>37.0%</td>
<td>36.8%</td>
<td>33.5%</td>
</tr>
<tr>
<td>Not at all concerned</td>
<td>35.4%</td>
<td>27.8%*</td>
<td>20.5%**†</td>
</tr>
<tr>
<td>Sample Size</td>
<td>32,538</td>
<td>5,364</td>
<td>657</td>
</tr>
</tbody>
</table>

* indicates significant difference from conventional population at the 5 percent level
† indicates significant difference between RWA and organic population at the 5 percent level
Concluding Thoughts

• Share of RWA chicken products is increasing over time

• RWA chicken products command higher prices than conventional products

• RWA households are generally larger, with children and greater income

• RWA households are more likely to very concerned about antibiotics in meat production; organic households even more so
Thank You

Contact information:
elina.t.page@ers.usda.gov