Food Fraud: Why? What? and Now What?
November 2018

Food Fraud

Why is it an issue now?

What exactly is food fraud?

What are my next steps?
Food Fraud – Why?

Melamine in milk powder*
Melamine in pet food*
Sudan dye in spices*
Horsemeat in burgers
Corn syrup in honey
Non-organic foods labeled as organic
Fish species misrepresented

*Caused death/ illness

Food Fraud – Why?

Increases in Food Fraud
• Easier to hide
  – Complex food supply chains
  – Global food supply
• Hard financial times
  – Crops impacted by weather or disease
  – Tariffs or other regulations
Food Fraud – Easy to Hide!

The Global Food System

Food Fraud – Why?

Perpetrators

• Do not want to be caught
• Do not intentionally cause harm – But lack of knowledge may result in harm
• Criminals

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Food Fraud – Why?

- 72% of consumers believe food fraud is widespread
- 27% believe they have been exposed to food fraud
- 35% of consumers are least trusting of processed foods
- 18% of consumers are least trusting of red meat
- 15% of consumers are least trusting of supplements

Food Fraud – What?

<table>
<thead>
<tr>
<th>Source</th>
<th>Intended Outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td>Food Fraud Prevention</td>
<td>Intentional Adulteration</td>
</tr>
<tr>
<td></td>
<td>Economic Gain</td>
</tr>
<tr>
<td>Food Defense</td>
<td>Intentional Adulteration</td>
</tr>
<tr>
<td></td>
<td>Do Harm</td>
</tr>
<tr>
<td>Food Safety</td>
<td>Unintentional Adulteration</td>
</tr>
<tr>
<td></td>
<td>Naturally Occurring Hazards</td>
</tr>
</tbody>
</table>
Food Fraud – What?

Substitution
• Ground peanut shells in cumin
• Melamine in milk powder
• Corn syrup in honey

Dilution
• Increased levels of water in a juice product

Misbranding
• Haddock sold as tilapia
• Non-organic sold as organic

Food Fraud – What?

Related terms:
• Economically motivated adulteration (EMA)
• Food crimes
• Vulnerability
• Horizon-scanning
Food Fraud – Next Steps?

Factors that increase ingredient susceptibility/vulnerability

• Buying it below market price
• Value added claims (organic, free range, etc.)
• Powdered forms
• Long supply chain
• History: spices, olive oil, honey, fish

Food Fraud – Next Steps?

FDA Requirements
• Preventive Controls Plan (HARPC)
  – Potential hazards from economically motivated adulteration

AIB International GMP Audit Requirements
• Suppliers assessed based on food fraud risk

GFSI (BRC, FSSC 22000, IFS, SQF) Requirements
• Food Fraud Vulnerability Assessment
• Mitigation Plan
Food Fraud – Next Steps?

1. Establish a food fraud team
2. Conduct a vulnerability assessment for all ingredients
   - Supply chain mapping
   - Communication with suppliers
3. Establish mitigation measures for vulnerable ingredients
4. Ongoing monitoring
Food Fraud – Next Steps?

Establish a Food Fraud Team

- Food fraud team coordinator
- Plant or facility manager
- Procurement
- Production manager
- Qualified auditor or external consultant
- Quality/technical/compliance manager
- Logistics representative
- Legal advisor or corporate counsel
- CEO/COO

Food Fraud – Next Steps?

Conduct a Vulnerability Assessment

<table>
<thead>
<tr>
<th>Ingredients List</th>
<th>Country of Origin</th>
<th>Vulnerability and/or Opportunity for Crime</th>
<th>Mitigation to ensure Integrity</th>
<th>Risk Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Whole or Flaked Almond</td>
<td>Syria</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dried Banana</td>
<td>India</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sunflower Seeds</td>
<td>Italy</td>
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</tr>
</tbody>
</table>
Food Fraud – Next Steps?

Supply Chain Mapping

Oregano originates in Greece
Oregano cleaned in England
Oregano milled and blended in Canada
Oregano added to tomato paste in California
Pizza sauce added to pizza in Ohio
Pizza sold in Oregon

Do this for all ingredients and all suppliers
### Most Common Fraudulent Foods

<table>
<thead>
<tr>
<th>Food</th>
<th>Food</th>
<th>Food</th>
</tr>
</thead>
<tbody>
<tr>
<td>Olive oil</td>
<td>Vanilla extract</td>
<td>Strawberry puree</td>
</tr>
<tr>
<td>Milk</td>
<td>Rice</td>
<td>Beeswax</td>
</tr>
<tr>
<td>Honey</td>
<td>Cheese</td>
<td>Star anise</td>
</tr>
<tr>
<td>Saffron</td>
<td>Turmeric</td>
<td>Durum wheat pasta</td>
</tr>
<tr>
<td>Orange juice</td>
<td>Vegetable oil</td>
<td>Guar gum</td>
</tr>
<tr>
<td>Apple juice</td>
<td>Chili powder</td>
<td>Palm Oil</td>
</tr>
<tr>
<td>Grape wine</td>
<td>Sesame oil</td>
<td>Paprika</td>
</tr>
<tr>
<td>Maple syrup</td>
<td>Cocoa powder</td>
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</table>

www.foodfraud.org

### Country Political Risk

<table>
<thead>
<tr>
<th>Country</th>
<th>Political Risk Score</th>
<th>Political Risk Category</th>
<th>World Ranking Political Risk</th>
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</thead>
<tbody>
<tr>
<td>Somalia</td>
<td>1.15</td>
<td>extreme</td>
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</tr>
<tr>
<td>Syria</td>
<td>1.18</td>
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<tr>
<td>Central African Republic</td>
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<tr>
<td>South Sudan</td>
<td>1.76</td>
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<tr>
<td>Iraq</td>
<td>1.86</td>
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<td>5</td>
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<tr>
<td>Libya</td>
<td>1.87</td>
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<tr>
<td>Afghanistan</td>
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<tr>
<td>DR Congo</td>
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<td>extreme</td>
<td>8</td>
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<tr>
<td>Sudan</td>
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<td>9</td>
</tr>
<tr>
<td>Yemen</td>
<td>2.35</td>
<td>extreme</td>
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</tr>
</tbody>
</table>
Food Fraud – Next Steps?

Establish Mitigation Measures
- Fraud specific audits
- Ingredient testing
- Approved supplier program
- Communication with suppliers

Food Fraud – Next Steps?

Resources

www.foodfraud.org
www.foodshield.org
www.horizonscan.fera.co.uk
www.ssafe-food.org
info@aibonline.org
Questions