

# **Food Defense Strategy In The U.S. Food Supply Chain Environment**

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# AGENDA

- Food Defense – How We Got Here
- Criminals In The Environment
  - Who would do harm
  - Where's the biggest risk
- Building The Defense
- Conclusions

# UNDERSTANDING FOOD DEFENSE

- **Food Safety** : prevention of *unintentional* contamination of food
- **Food Defense**: prevention of *intentional* contamination of food
- **Food Defense & Food Safety share many concepts and tactics and are merging into a broader concept – FOOD PROTECTION**
  - Management programs - driven by risk analysis
  - Common hazards - chemical, physical, biological
  - Employee skill set

# Emergence Of Food Defense

- **“Food Safety” impacts retail purchase decisions**
  - Studies show this is true for 91% of respondents
  - More than half of consumers think about food safety when they shop
  - Most consumers feel the U.S. government is responsible to protect food
- **Fear of attack impacts the quality of life<sup>1,2</sup>**
  - 85% expect a terrorist attack on some segment of agriculture
  - 77% said their region is not prepared to fend off attacks
  - 64% said food security was an “urgent issue”
  - 44% believe the food supply chain will be attacked
- **U.S. consumers don’t distinguish between accidental or intentional occurrences that make food unsafe. They just want assurance that it is safe.<sup>3</sup>**

<sup>1</sup>Michigan State University. 2006. <sup>2</sup>Degeffee, et. al., 2006. <sup>3</sup>Seaman, C. 2006

# Why Top U.S. Officials Worry

- **SUPPLY SIDE FACTORS**

- **Concentrated and intensive agriculture practice**
- **Livestock and field crop disease susceptibility**
- **Trucking, warehouses and storage are easy targets**
- **Low tech industry & high workforce turnover**

- **RETAIL**

- **Increase in store prepared foods**
- **Open, ready to eat food displays**
- **Rapid consumption & complex traceability**

# CRIMINALS IN THE FOOD SUPPLY CHAIN

- **Aggressor Categories**
  - Criminal
  - Protestors
  - Terrorists
  - Subversives
  - **Rogue or Disgruntled Employee**
    - **Most difficult group to stop - inside access**
    - **Seek personal revenge**
    - **Act with little or no planning to serve their interests**



# CRIMINALS IN THE FOOD SUPPLY CHAIN

- **Most Crimes Committed Follow The MMO Model**
  - Motive
  - Means
  - Opportunity
- **Disgruntled retail employees and vendor / contractor employees easily fit the potential saboteur role:**

## Check All That Fit!

- Motive                   **Anger. Retribution for perceived oversights**
- Means                   **Chemical cleaners, pesticides, broken glass, feces**
- Opportunity           **Shift changes, breaks, cleaning & pest control crews**
- PLUS!                   **They understand the security system and the flow of personnel**

# FOOD DEFENSE PLAN COMPONENTS

**WRITTEN GUIDELINES ARE ESSENTIAL FOR  
SUCCESSFUL IMPLEMENTATION**

- MANAGEMENT RESPONSIBILITIES
- EMPLOYEES
- CUSTOMERS & VENDORS
- FACILITY & INFRASTRUCTURE
- OPERATIONAL PROCEDURES



# **Challenges To Implementing Retail Food Defense**

- 1. Role of Management**
- 2. Completing Risk Analysis**
- 3. Human Factors**
- 4. Vendors**
- 5. Program Validation**

# Challenge #1: Management

- Program Development
  - Key decisions at the corporate level ensure consistency
  - Multi-discipline team tackles program details (i.e., written policies, **risk analysis**)
    - Human Resources
    - Purchasing
    - Operations
    - Security
    - Quality Assurance/Food Safety
- Implementation Teams
  - Store level department managers & employees
  - Training & orientation of team

# CHALLENGE #2: RISK ANALYSIS

- **THE BASIS** for a successful food defense program
- Requires a diverse team structure
- There are many procedures; none will eliminate all risk
  - ORM – easy to use; widely accepted
  - Carver + Shock – FDA/USDA
  - HACCP Methodology
- RA procedures evaluate the severity and probability that an adverse event will occur

## SEVERITY + PROBABILITY = RISK

SEVERITY		PROBABILITY				
		FREQUENT	LIKELY	OCCASIONAL	SELDOM	UNLIKELY
		A	B	C	D	E
<b>CATASTROPHIC</b>	I	<b>1</b>	<b>2</b>	<b>6</b>	<b>8</b>	<b>12</b>
<b>CRITICAL</b>	II	<b>3</b>	<b>4</b>	<b>7</b>	<b>11</b>	<b>12</b>
<b>MODERATE</b>	III	<b>5</b>	<b>9</b>	<b>10</b>	<b>14</b>	<b>16</b>
<b>NEGLIGIBLE</b>	IV	<b>13</b>	<b>17</b>	<b>18</b>	<b>19</b>	<b>20</b>
		<b>RISK LEVEL</b>				

**Extremely High – 1, 2, 3 – Immediate Attention**

**Critical – 4, 5, 6, 7, 8**

Moderate – 9, 10, 11, 12, 13

Negligible – 14, 15, 16, 17, 18, 19, 20

# CHALLENGE #3: THE HUMAN FACTOR

- **Employees**

- Follow hiring policy
- Screening & reference checks are critical
- Closely control daily work assignments
- Restrict access & control personal items
- Training in security procedures is critical

- **Customers**

- Monitor public, deli, & self-service areas
- Restrict access to non-public areas

# CHALLENGE #4: VENDORS

- **Vendors: suppliers of food products & services**
  - **Enforce all vendor qualification policies & physically audit their operations**
  - **Confirm references. Confirm recall & traceability history. Conduct at least 1 joint recall drill/year**
  - **Establish receiving & vehicle inspection program with schedules**
  - **Check photo ID. Work by appointment. Always escort vendor reps when in food contact areas**

# **CHALLENGE #5: PROGRAM VALIDATION**

- **Review risk analysis methodology & conclusions**
- **Do identified risks link to specific control procedures?**
- **Are control procedures subject to verification?**
- **Physical review of facilities is conducted periodically**
- **Gaps found by internal audits & traceability tests must be addressed**

# Conclusions

- **Food defense is a cornerstone in food protection management systems**
- **The disgruntled employee poses the greatest threat**
- **Properly trained and involved employees greatly enhance the food defense program**
- **Qualified vendors & contractors will also have an effective food defense plan**
- **A validated risk analysis is the basis of an effective food defense program**