

Food Safety vs. Food Security: Achieving One without Sacrificing the Other

Government-University-Industry Research Roundtable Meeting

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Who is the Grocery Manufacturers Association?

- GMA represents the world's leading food, beverage and consumer products companies.
 - More than 300 leading food and consumer products companies involved in global sourcing

Who is the Grocery Manufacturers Association?

- GMA represents the world's leading food, beverage and consumer products companies.
- Provide leadership to the U.S. food industry in food safety through promotion of scientific excellence.
 - State-of-art research and analytical laboratory
 - Training in regulatory and food safety issues
 - Collaborate with U.S. government on foods issues



*“We are entering an era of
Globalization at a time when we
are undergoing profound societal
changes”*

Introduction

- Globalization: Everything is changing
- Implications for food safety are not fully known, although concerns remain
- Food safety bar is being raised



Global Food Trade

Already 40% of all trade in agriculture, fisheries & forestry occurs between developing & developed countries.

More than 20% of all US imports are food products (more than 8 million shipments a year).



A Multinational Loaf

Amy Schoenfeld: New York Times, June 15, 2007

INGREDIENTS:

- **Wheat gluten**
- **Honey**
- **Calcium propionate**
- **Guar gum**
- **Flour enrichments**
- **Beta-carotene**
- **Vitamin D₃**

Source: Sara Lee



A Multinational Loaf

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- **Wheat gluten** – France, Poland, Russia, Netherlands, Australia
- **Honey** – China, Vietnam, Brazil, Uruguay, India, Canada, Mexico, Argentina
- **Calcium propionate** – Netherlands
- **Guar gum** – India
- **Flour enrichments** – China
- **Beta-carotene** – Switzerland
- **Vitamin D₃** – China

Source: Sara Lee



“Globalization of the food supply means that we (all countries) must share responsibility for food safety throughout the entire food supply chain from producers to consumers.”

Risks in the Global Market

Risks - What?

- Microbiological
 - *Salmonella* in Jalapeño peppers
 - *Cyclospora* in raspberries

Risks - What?

- Microbiological
- Chemical
 - Unapproved pesticides
 - Dietary supplement ingredients
 - Heavy metals
 - Lead in candy
 - Unapproved chemotherapeutics
 - Chloramphenicol in honey
 - Undeclared allergens

Risks - What?

- Microbiological
- Chemical
- Physical

Risks – Why?

- ***Non-adherence with GAPs/GMPs/GAqPs***

Risks – Why?

- *Non-adherence with GAPs/GMPs/GAqPs*
- ***Poor sanitation***

Risks – Why?

- *Non-adherence with GAPs/GMPs/GAqPs*
- *Poor sanitation*
- ***Poor water quality***

Risks – Why?

- *Non-adherence with GAPs/GMPs/GAqPs*
- *Poor sanitation*
- *Poor water quality*
- ***Economic adulteration***
 - ***Substitution (melamine)***
 - ***Inferior quality***

Risks – Why?

- *Non-adherence with GAPs/GMPs/GAqPs*
- *Poor sanitation*
- *Poor water quality*
- *Economic adulteration*
- ***Counterfeiting***

Risks – Why?

- *Non-adherence with GAPs/GMPs/GAqPs*
- *Poor sanitation*
- *Poor water quality*
- *Economic adulteration*
- *Counterfeiting*
- ***Intentional contamination***
 - ***Terrorism***
 - ***Industrial sabotage***

Expectations for Assuring Food Safety in the Global Food Economy



Consumer Confidence in Food Safety is Down

- The number of consumers "completely" or "somewhat confident" in the safety of supermarket food declined
 - 82 percent in 2006
 - 66 percent in 2007

FMI Consumer Trends 2007,
January 2007 survey



Consumer Confidence

- Compared to 2 or 3 years ago, would you say you are MORE or LESS concerned about foods produced in the U.S.
 - **52% MORE CONCERNED**
 - 4% LESS CONCERNED
 - 44% NO CHANGE

Consumer Confidence

- Compared to 2 or 3 years ago, would you say you are MORE or LESS concerned about **imported** foods
 - **68% MORE CONCERNED**
 - **3% LESS CONCERNED**
 - **28% NO CHANGE**
 - **1% DON'T KNOW**



What does all this have
to do with food security?

Food Safety vs Food Security?

Impact of Food Safety on Food Security

- Consumer Confidence

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 - Impact on trade and local economy

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 - Commercial brand

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- Consumer Confidence
 - Impact on trade and local economy
 - Value of “Brand”
 - Commercial brand
 - Reputation of exporting economy
 - Mistrust by customers leads to negative impact on suppliers

Impact of Food Safety on Food Security

- Consumer Confidence
- Impact on local food safety
 - Development of “multi-class” system of food quality and safety
 - Efforts to repair “brand” often leads to:
 - Highest quality reserved for export
 - Poorer quality left for local population

Impact of Food Safety on Food Security

- Consumer Confidence
- Impact on local food safety
 - Development of “multi-class” system of food quality and safety
 - Efforts to repair “brand” often leads to:
 - Less safe foods for local population

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Impact of Food Safety on Food Security

- Consumer Confidence
- Impact on local food safety
 - Development of “multi-class” system of food quality and safety
 - Efforts to repair “brand” often leads to:
 - Less safe foods for local population
 - Erosion of trust by local population
 - Limitations on food choices

Impact of Food Security on Food Safety

- Reduced concern over safety
 - Reluctance to discard spoiled food

Impact of Food Security on Food Safety

- Reduced concern over safety
- Lack of food increases chance of substandard food being consumed
 - Eg. Moldy Corn

Impact of Food Security on Food Safety

- Reduced concern over safety
- Lack of food increases chance of substandard food being consumed
- Increased susceptibility to infectious diseases
 - Public health
 - Transmission to foods being exported

Impact of Food Security on Food Safety

- Reduced concern over safety
- Lack of food increases chance of substandard food being consumed
- Increased susceptibility to infectious diseases
- Increased chance for economic adulteration



So how does one solve?

Managing Risks

Managing Risks

- Recognize real vs perceived food safety issues
 - Real
 - Microbial pathogens
 - Heavy metals
 - Mycotoxins

Managing Risks

- Recognize real vs perceived food safety issues
 - Real
 - Microbial pathogens
 - Heavy metals
 - Mycotoxins
 - Perceived
 - Biotechnology
 - Irradiation
 - “Chemicals” with little/no demonstrable human health risk

Managing Risks

- Recognize real vs perceived food safety issues
- Mechanisms to Accomplishing
 - Supply chain management

Supply Chain Management

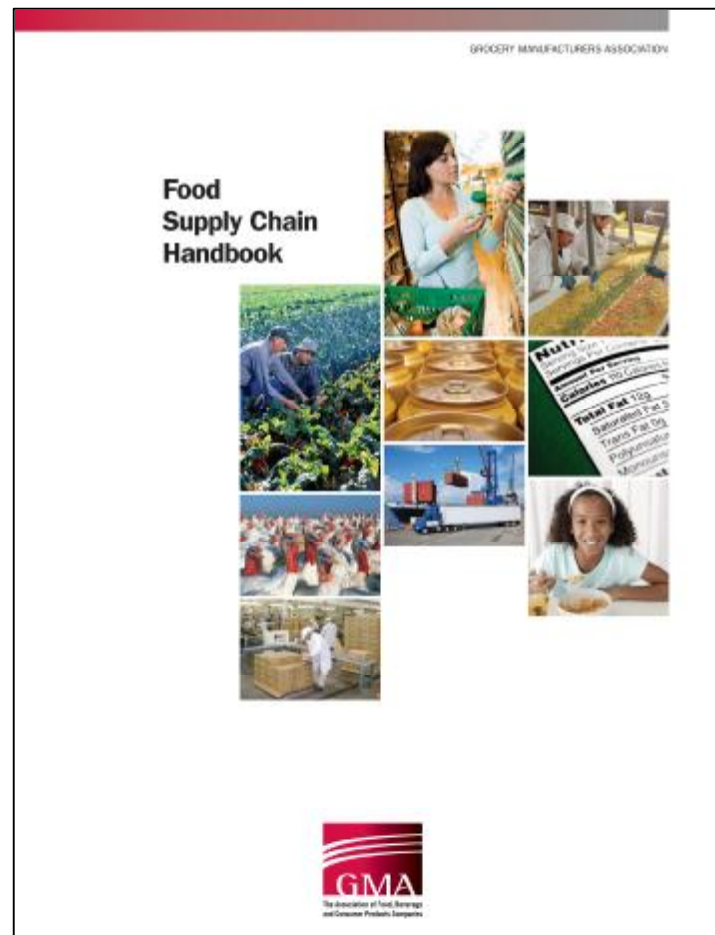
- What is “Supply Chain Management?”

Due diligence to assure that products received from suppliers meet required regulatory, legal, and contractual standards of safety.

Supply Chain Management: GMA Food Supply Chain Handbook

English
Spanish
Mandarin
French
Russian

www.gmabrands.org



Elements of Food Supply Chain Handbook

- Ø Hazard Analysis Critical Control Point (HACCP)**
- Ø Good Manufacturing Practice (GMP)**
- Ø Good Hygienic Practices (GHP)**
- Ø Good Agricultural Practice (GAP) if applicable**
- Ø Good Aquaculture Practice (GAqP) if applicable**
- Ø Employee training**
- Ø US regulatory compliance**
- Ø Recall program**
- Ø Product Testing**

Managing Risks

- Recognize real vs perceived food safety issues
- Mechanisms to Accomplishing
 - Supply chain management
 - Adoption of food preservation technologies
 - Irradiation
 - High Pressure
 - Thermal

Managing Risks

- Recognize real vs perceived food safety issues
- Mechanisms to Accomplishing
 - Supply chain management
 - Adoption of food preservation technologies
 - Building infrastructure in developing or susceptible economies
 - Regulatory infrastructure
 - Capacity of regulatory system
 - Capability of regulatory system

Managing Risks

- Recognize real vs perceived food safety issues
- Mechanisms to Accomplishing
 - Supply chain management
 - Adoption of food preservation technologies
 - Building infrastructure in developing or susceptible economies
 - Regulatory infrastructure
 - Private Sector
 - Scientific foundation

Managing Risks

- Recognize real vs perceived food safety issues
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 - Private Sector
 - Scientific foundation
 - Technological capability

Managing Risks

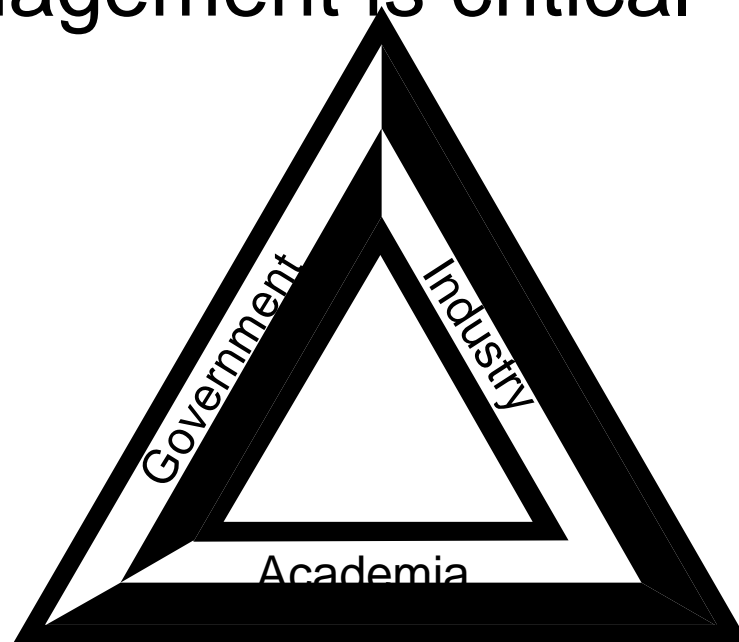
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- Mechanisms to Accomplishing
 - Supply chain management
 - Adoption of food preservation technologies
 - Building infrastructure in developing or susceptible economies
 - Regulatory infrastructure
 - Private Sector
 - Scientific foundation
 - Technological capability
 - Processes for assuring compliance throughout the supply chain

Managing Risks

- Recognize real vs perceived food safety issues
- Mechanisms to Accomplishing
 - Supply chain management
 - Adoption of food preservation technologies
 - Building infrastructure in developing or susceptible economies
 - Regulatory infrastructure
 - Private Sector
 - Ongoing Training and Education

Training and Education

- Regulator and manufacturer technical competence and understanding of food safety management is critical



Summary

- Goal of both food safety and food security is to positively impact public health, both domestically and globally
- Food Safety and Food Security directly impact each other
- One should not address one without considering the impact of the other