

GMA



Representing the Makers of the World's Favorite Food, Beverage and Consumer Products

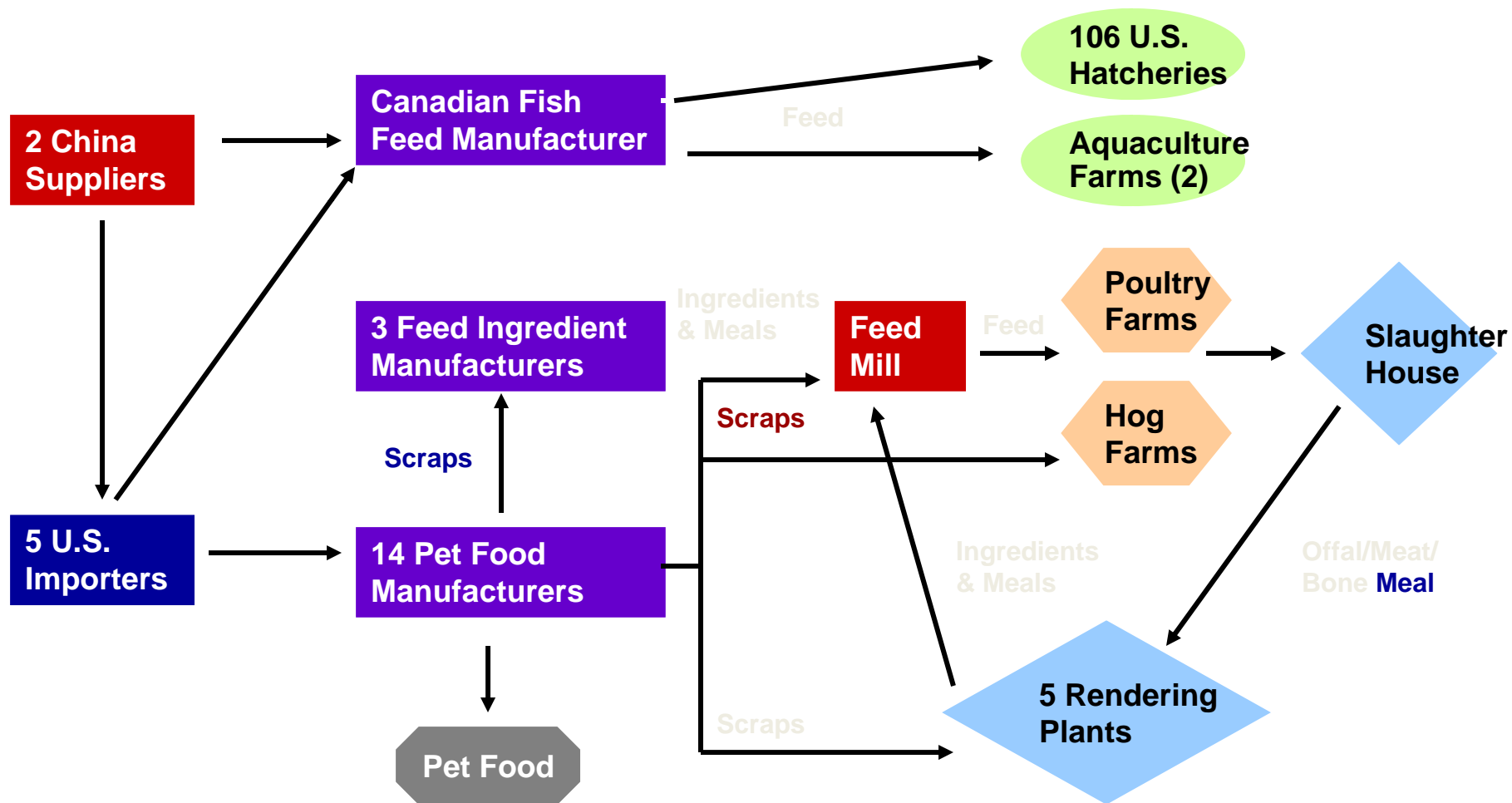
Effective Supply Chain Management

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www.gmaonline.org

Recent recalls and outbreaks of foodborne illness have shown there are weaknesses in the supply chain.

Melamine I



Company recalls trail mix

- ❖ The recalled products contain peanuts that were supplied by PCA to [Company X's] third party contract packer for its Fruit and Nut Trail Mix products.



Seasoned veggie snack

- ❖ Recalled in 2007
- ❖ 60 cases of salmonellosis in 19 states
- ❖ Suspected source: dried Chinese vegetable seasonings
- ❖ Supplier had outsourced to China without the manufacturer's knowledge



Seasoned veggie snack

- ❖ CEO: “The big lesson I learned is, always monitor suppliers and not take anything for granted and do more testing.”



What such events tell us:

- ❖ The food industry needs to step back and re-look at how they manage their suppliers and implement supplier approval/verification programs.

Food Supply Chain Handbook

To aid companies in selecting such valued business partners, the Grocery Manufacturers Association (GMA) has developed a ***Food Supply Chain Handbook***



Available in:

English
Spanish
Mandarin
French
Russian
Japanese

GROCERY MANUFACTURERS ASSOCIATION

Food Supply Chain Handbook

Nutr.	
Serving Size 1	
Servings Per Serving	
Amount Per Serving	% Daily Value*
Calories 100	Calories 100
Total Fat 12g	24%
Saturated Fat 3g	6%
Trans Fat 0g	0%
Polyunsatur	
Monounsatur	

<http://www.gmaonline.org/publications/index.cfm>

Some of the handbook tools

- Supplier Management
- Supplier Pre-assessment & Review
- Change Control
- Documentation & Recordkeeping
- Supplier Documentation (LOGs, COAs etc.)
- Auditing
 - Internal & External
- Regulatory Compliance
- Food Defense
- Sanitation Programs
- Food Safety
- Employee Training
- Environmental Monitoring
- Allergen Control

More tools

- Foreign Material Control
- Label Control Programs
 - Design Controls
 - Inventory Controls
- Product & Ingredient Tracing
- Product Testing
- Control of Non-conforming product (Hold & Release)
- Consumer Complaints
- Recalls & Withdrawals
- Crisis Management



Key Concept

Preventing production of contaminated foods is much more effective than reliance on detection of contaminated goods in distribution and corrective actions.

Know your supplier & their programs

- ❖ This may be your best approach to evaluating the integrity of certain attributes.
- ❖ In practicality, attempts to sample and test certain critical defects may not be statistically feasible especially in high volume situations.

Where Do We Start?

- ❖ Conduct a material risk assessment for all raw materials, ingredients and packaging
- ❖ The risk assessment will lead to:
 - Development of specifications and supplier requirements
 - Determination of critical parameters

Materials Risk Assessment

- ❖ Use a HACCP hazard analysis type approach
 - What key attributes must incoming goods have to make my product successful?
 - Identify the inherent key components of ingredients
 - Draft specifications around these factors
- ❖ Unique & specific to each product and facility
- ❖ Don't forget packaging!!

Example: Peanut Butter (Identified Hazards: aflatoxin, salmonella, foreign material)

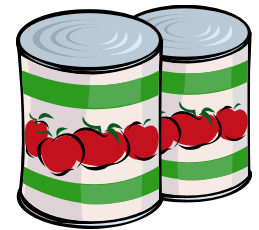
Key Attributes of Your Product

- ❖ What makes your product safe?
 - Low moisture/water activity
 - Low pH
 - Process step: cooking, baking etc.
 - Integrity of ingredients
 - Temperature control throughout the supply chain



Inherent Properties of Ingredients

- ❖ Raw agriculture commodities
- ❖ Canned
- ❖ Pasteurized
- ❖ Frozen
- ❖ Blanched
- ❖ What further processing will they receive?
- ❖ Recent activity in the food safety arena?
 - *Salmonella* in peanut products



Peanut Butter Example

❖ Government Commodity Standards

❖ Microbiological Standards

- Salmonella Negative
- E. Coli <3.6/g
- Coliform <10/g MPN
- Aerobic Plate Count <10,000/g
- Yeast <100/gram
- Mold <100/gram

Specs for Farmer Stock Raw Peanuts:

- ❖ Single Type = 99%
- ❖ < 1% Damage due to rancidity, mold or decay
- ❖ <0.5% Freeze damage
- ❖ Free from objectionable odors
- ❖ <4% Foreign Material (Grade I-A)

Source: American Peanut Shellers Assoc

Other Specification Components

- ❖ Any necessary regulatory requirements
- ❖ Food safety components
- ❖ Coding (how to read the lot code)
- ❖ Packaging
- ❖ Shelf life remaining upon receipt
- ❖ Shipping requirements (i.e. raw peanuts, 0-5° C & 55-70% humidity)
- ❖ Allergen controls

Specification

- ❖ One of the primary tools in communication with your supplier.
- ❖ Often the first communication with the supplier
 - Thus, it should be thorough, comprehensive and professional
- ❖ **One single step** dealing with one single ingredient or packaging material
- ❖ A single step in comprehensive Supplier Management

What do we know about food categories?

Ingredient	Reports	Adulterant	Region
Pistachios	343	Aflatoxin, infestation, ochratoxin insufficient labeling, unapproved colors	Germany, Iran, Israel, Italy, Kyrgyzstan, Latvia, Luxemburg, Lebanon, Netherlands, Slovenia, Spain, Syria, Tajikistan, Turkey, United Kingdom, United States
Walnuts	20	Bad hygienic state, aflatoxin, infestation, lead unsuitable transportation	Austria, Brazil, India, Kyrgyzstan, Moldova, Poland, Turkey, Ukraine, United States
Almonds	204	Aflatoxin, infestation, mold, unauthorized PPO, <i>Salmonella</i> rancidity	United Arab Emirates, United States
Egg and Egg Products	71	<i>Salmonella</i> , mold, aflatoxin Glass, anti-parasitic drug (Nicarbazin), antibiotics (Enrofloxacin, tilmicosin) dioxins, PCBs, infestation, pesticides, lead	Argentina, Belgium, Bulgaria, China, France, Germany, Hungary, Italy, Japan, Netherlands, Poland, Spain, Switzerland, Ukraine

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❖ Supplier questions:

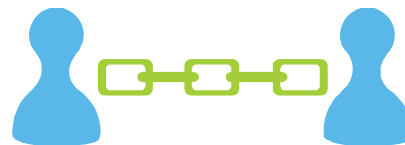
- Did you know of these category hazards?
- Do these same environment/economic drivers exist in this category?
- What are your preventative measures?

Supplier Management

- ❖ Build in prevention via close interaction with suppliers
- ❖ Establish supplier approval protocols
- ❖ Source only from approved suppliers whenever possible
- ❖ Implement a more stringent oversight process when sourcing from a new supplier or unapproved supplier

Supplier Approval

- ❖ Ability to meet specifications for safety and quality
- ❖ Presence and implementation of appropriate control programs/ policies/ procedures (See Food Supply Chain Handbook)
- ❖ **Presence of the supplier's supplier approval program**



Supplier Approval

- ❖ The nature and frequency of activities for supplier approval and maintenance should depend on risk
 - Importance/volume of ingredient used
 - Sensitive ingredient
 - Likelihood of contaminant being present
 - Absence of steps to mitigate risk from the contaminant
 - Control of any risk mitigation steps

Supplier Approval Process

❖ Surveys

❖ Testing

❖ Audits

Supplier Approval Process

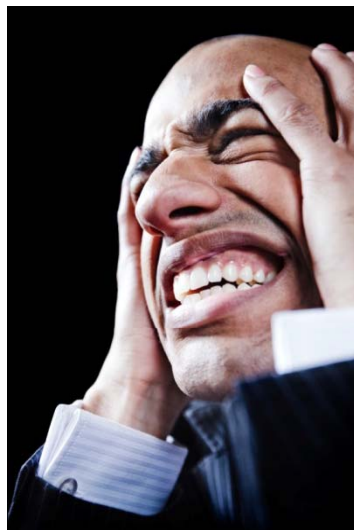
❖ Surveys

- Processes in place (HACCP, Allergen control)
 - document review (may also be done on-site)
- Regulatory compliance (search FDA website)
- Specifications
- Certifications (e.g., ISO 22000, GlobalGAP)
- Audits
- Questions specific to concerns
 - Allergens used
 - Environmental monitoring programs
 - Training

Supplier Approval Process - Testing

- ❖ Review testing programs in place
 - Environmental monitoring
 - Supplier's incoming ingredients
 - Suppliers outgoing products
- ❖ Conduct verification testing as appropriate to the items being purchased from this supplier.
- ❖ Testing for new supplier approval is usually more extensive than for maintenance of approved supplier status.

Audits



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Supplier Audits

- ❖ May be second or third party audits, depending on risk of ingredient.
- ❖ Follow up to verify deficiencies have been corrected.
- ❖ Conduct audit (2nd or 3rd party) when testing indicates there may be deficiencies in the supplier's control programs.
- ❖ Ensure auditor is knowledgeable about the ingredient being provided by the supplier.

Supplier Management

- ❖ Be prepared to **stop buying** products from a supplier when major deficiencies are found.

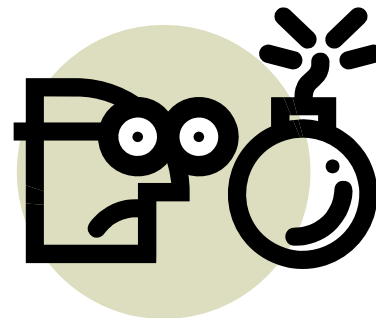
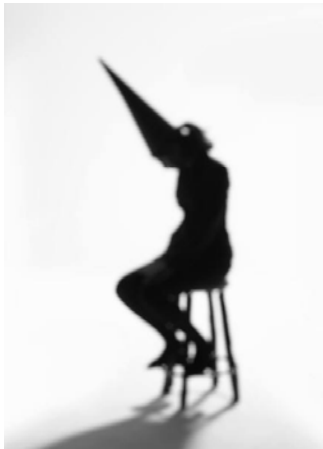
Protect Your Company!

- ❖ Through your contracting process
- ❖ Through your supplier requirements
- ❖ Through an educated supplier approval team
- ❖ Through an educated purchasing group
- ❖ Through your supplier verification procedures

Change Control

- ❖ After you've conducted a review, established a working relationship with the supplier, conducted an audit, purchased their goods or services, you as the customer need to **know when a significant change occurs.**
- ❖ Change control ensures that standardized methods and procedures are used for efficient handling of all changes to the food safety system, in order to minimize the impact of any related modifications to supplied items.

Relatively simple changes in ingredients can often have a major impact



Seasoned Veggie Snack

- ❖ Recalled in 2007 after linked to at least 60 cases of salmonellosis in 19 states
- ❖ Suspected source: dried Chinese vegetable seasonings
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Changes

- ❖ Change in ingredient supplier could result in an item being sourced from a factory with marginal food safety programs vs exemplary ones
- ❖ Changes in process machinery could affect sanitation procedures for new machinery that may not be validated for elimination of microorganisms or allergenic residues
- ❖ Required changes in finished product country-of-origin labeling (juices and, recently, meats)
- ❖ Different standards for chemical residues or pesticides



FSMA

And Supply Chain Management

Preventive Controls (Section 103)

❖ **Supplier verification activities related to food safety**

- ❖ Sanitation procedures for food contact surfaces and utensils;
- ❖ An environmental monitoring program to verify the effectiveness of pathogen controls
- ❖ A food allergen control program;
- ❖ Good Manufacturing Practices (21 C.F.R. Part 110);
- ❖ Supervisor, manager, and employee hygiene training;

Foreign Supplier Verification Program (Section 301)

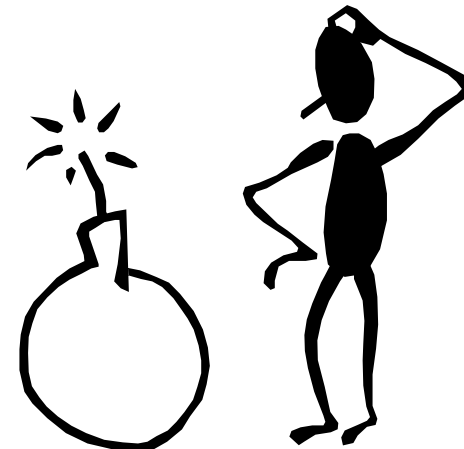
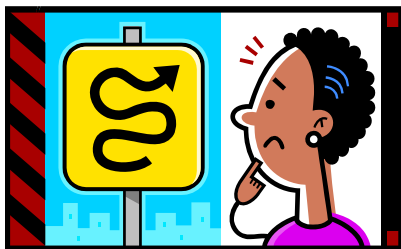
- ❖ The FSMA requires every U.S. importer to:
 - Perform risk-based foreign supplier verification activities to verify that the food it imports is
 - Not adulterated
 - Produced in compliance with the requirements of FSMA hazard analysis and preventive control sections or

“Certification”

❖ Lots of confusion!!



❖ All imports will require certification =
FALSE !!!!

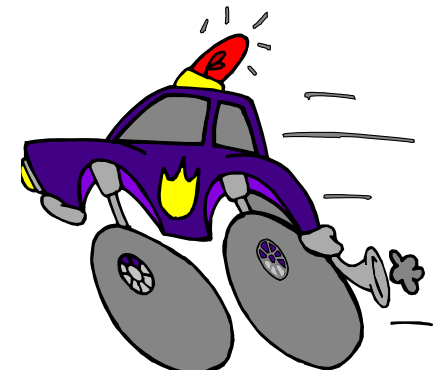


Though certification may
play a key role in other
FSMA components



Voluntary Qualified Importer Program

❖ VQIP is basically a fast lane through various import requirements

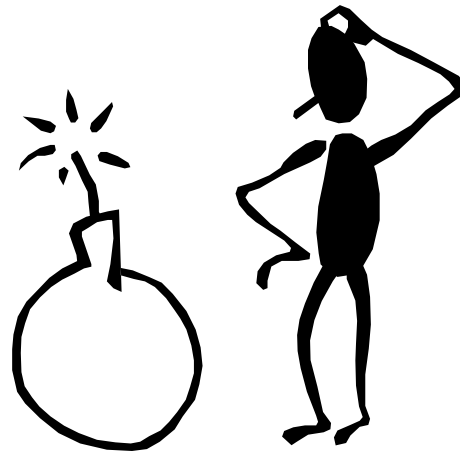


Voluntary Qualified Importer Program

Section (302)

- ❖ Eligibility: an importer must be importing food from a facility that has been **certified by an accredited third-party auditor** under FSMA accreditation procedures (TBD)
- ❖ An importer wishing to participate must submit a notice and application to FDA

Not to be confused with...



Import Certification

(Section 303)

- ❖ FDA is **authorized** to require, as a condition of granting admission to ... food offered for import,
 - An agency or representative ... or an accredited third-party auditor, provide a **certification**, ...that the food complies with FD&C Act requirements.
- ❖ FDA may refuse to accept an **import certificate** if FDA determines it is not valid or reliable.



Import Certification (Continued)

- ❖ **In determining whether to require such certification, FDA shall consider such factors as**
 - Known safety risks of the food
 - Known safety risks of the country, territory, or region of origin of the food
 - A finding by FDA that the food safety programs, systems, and standards in the country, territory, or region of origin are inadequate
 - Certification would assist FDA in making an admissibility determination



Summary/Conclusions

- ❖ The food industry must implement appropriate controls to ensure the safety of the products it produces.
- ❖ Many companies will have to enhance their existing programs.
- ❖ Having controls for the immediate previous supplier will not be adequate in many cases.

Summary/Conclusions

- ❖ Appropriate controls must be employed throughout the food supply chain.
- ❖ If industry does not find approaches that work, the government may dictate programs that may be burdensome and not be effective.



Questions???