GMA Industry Handbook for Safe Processing of Nuts
Building on *Salmonella* Guidance for Low-Moisture Foods

NPSA Annual Meeting
Memphis, Tennessee
September 16-18, 2010

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Acknowledgements

GMA *Salmonella* Control Task Force
GMA Nut Safety Task Force
Yuhuan Chen (FDA)
Jenny Scott (FDA)
Nancy Bontempo (Kraft Foods)
David Wankowski (Kraft Foods)
Agenda

- Nut Food Safety History
- FDA Proposed Legislation and Impact
- Industry Coalition Guidance Material
- Internal Plant Assessment Learning’s
- Supplier and External Manufacture Outreach and Assessment Observations
- Sustaining Knowledge and Expectations
Need for Nut Safety Advancement

- Recent food borne outbreaks and recalls due to *Salmonella* in low-moisture products indicated the need for multi-disciplinary guidance on preventive controls to reduce risk.
- Industry has been called to further actions to protect public health.
Salmonella Contamination of Nuts

- Two large outbreaks in US
  - Over 628 cases in 47 states attributed to *S.* Tennessee in peanut butter (2006-2007)
  - Over 690 cases in 43 states attributed to *S.* Typhimurium in peanut butter-containing products (2008-2009)

- A large scale recall in US
  - Pistachios (2 million lbs) were recalled due to *Salmonella* contamination, (2009)
    (No illnesses reported)
Salmonella Outbreaks – Beyond Nuts

- *Salmonella* outbreaks from low-moisture products
  - Relatively rare compared to illnesses from other food categories
  - Often impacts a large number of people
    - Cereal (1998, US) – 209 cases
    - Chocolate (2001-02, Europe) – 439 cases
    - Peanut butter (2008-09, US) – 691 cases
Outbreaks and Recalls

- Illustrate the wide range of low-moisture products, including nuts, that can be contaminated with *Salmonella*

- Underscore
  - The difficulty in eliminating *Salmonella* from dry products, as well as in the environment of dry product manufacturing facilities
FDA Proposed Legislation and Impact to Nut Category
Legislation in Congress

- Food Safety Enhancement Act of 2009 (H.R. 2749)
  - House passage in July, 2009

- FDA Food Safety Modernization Act (S. 510)
  - Approved by Senate HELP Committee in November, 2009
  - Expect passage in Senate late 2010?
Food Safety Enhancement Act of 2009 (H.R. 2749)

- Provisions for food safety standards, mandatory recalls, enhanced oversight of imported foods, among others

- Provision for preventive control process, which requires facility to:
  - Conduct a hazard evaluation that identifies potential sources of contamination
  - Identify appropriate controls
  - Document in a Food Safety Plan
FDA Food Safety Modernization Act (S. 510)

- Improving capacity to prevent food safety problems (at the Company)
- Improving capacity to detect and respond to food safety problems
- Improving the safety of imported food
FDA Food Safety Modernization Act (S. 510)

Sec. 103. Hazard analysis and risk-based preventive controls

- Evaluate hazards that could affect food
- Identify and implement preventive controls to significantly minimize or prevent occurrence
- Monitor performance of those controls
- Maintain records of monitoring
Hazard Analysis and Risk-based Preventive Controls (S. 510)

- Develop written hazard analysis
  - Known or foreseeable hazards: Includes biological, chemical, physical and radiological hazards, allergens, etc.

- Implement preventive controls, including:
  - Sanitation procedures, training, environmental monitoring, allergen control program, GMPs, a recall plan, and supplier verification activities

- Verify that preventive controls are effective
  - Use of environmental and product testing programs and other appropriate means
Industry Coalition Guidance Material
Guidance for Preventive Controls

- “Control of *Salmonella* in Low-Moisture Foods”
  - Developed by GMA *Salmonella* Control Task Force
- “Industry Handbook for Safe Processing of Nuts”
  - Developed by GMA Nut Safety Task Force
“Control of *Salmonella* in Low-Moisture Foods”

- Seven elements in the Guidance
  - Prevent ingress or spread of *Salmonella*
  - Enhance the stringency of hygiene controls in the PSCA
  - Apply hygienic design principles to building and equipment design
  - Prevent or minimize growth of *Salmonella* within the facility
  - Establish a raw materials/ingredients control program
  - Validate control measures to inactivate *Salmonella*
  - Establish procedures for verification of *Salmonella* controls and corrective actions
GMA *Salmonella* Control Task Force

**Control of *Salmonella* in Low-Moisture Foods**

- Developed the guidance and strategies to promote voluntary adoption.
  - GMA website

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GMA Nut Safety Task Force

- An industry coalition
  - GMA members from Kraft Foods, Nestlé, General Mills, Kellogg Co., Mars, ConAgra, Campbell, Ocean Spray, Silliker, Hershey Co., Diamond Foods
  - Members from Golden Peanut, John B. Sanfilippo, Green Valley Pecan, Navarro Pecan, Birdsong Peanuts
  - Trade Groups: PTNPA, APC, CPRB, ACP, CWB, CPB, NCA, NPSA, WPA, ACFSQ, JLA, CBC

- To specifically assist the nut industry
  - A cross section of growing, shelling and processing industry involved in development of guidance
  - Sharing best practices and promote voluntary adoption of guidance
GMA Nut Handbook

- Represents a “tool chest” for nut industry members seeking successful food safety practices
  - A comprehensive “How-To” manual
Handbook Focus Areas

- Four chapters in the Nut Handbook
  1. Management Responsibility
  2. Food Safety Plan
     - HACCP and Process Validation
  3. Other Preventive Controls/Prerequisite Programs, including:
     - Facilities and Sanitation
     - Allergen control
     - Hygiene zoning (segregation of raw vs. RTE areas)
     - Pathogen environmental monitoring (PEM)
     - Control of raw materials and products
  4. Principles of Equipment Design
Process Validation

- Nut Handbook
  - Includes a list of technologies for *Salmonella* inactivation (KILL STEP)
  - Provide guidelines on how to validate a process, e.g., study design requirements, data collection, time/temperature profile, challenge studies

- *Salmonella* inactivation
  - A 4-log reduction is adequate for certain nuts such as almonds
  - Studies underway to validate appropriate reduction for peanuts and other tree nuts
Appendices in the Nut Handbook

- Provide further guidelines on topics such as:
  - Considerations for sampling and testing as a verification tool
  - Time/temp guidelines for *Salmonella* inactivation
  - Registration information for PPO and ETO as a control measure
  - Examples of HACCP forms
  - Examples of roaster validation
  - Hygiene zoning example
  - The 7-steps of dry sanitation
  - The 7-steps of wet sanitation
Plant Assessment Learning’s
What’s New?

- New eye on the industry
- Regulatory agencies looking at all suppliers and manufacturers of nuts and seeds
- It is important to understand and justify what, where, and why we do what we do
- We all need to know the science behind our industry
Commitment to Food Safety

Commitment to Food Safety is understood and executed through:

- Procurement
- Auditing
- Quality
- Research and Development
- Sanitation
- Microbiology
- Business
- A pathogen environmental monitoring program (PEMP) must be in place
- Processing equipment cannot be shared between raw and RTE products without a risk assessment
- Thorough review of process validation by microbiologist
- Bins (totes, barrels, boxes, utensils) designed for storing/staging product could be color coded, or equivalent; dedicated to raw or RTE
- Traffic patterns must be identified
Elements

- Properly filtered air - Air handling systems must be sufficient to avoid cross contamination (no vents open to roof or outside, swamp coolers)
- Positive air pressure is required in neutral areas relative to raw areas
- Solid permanent walls are required in open exposed product areas
- Separate sanitation clean/staging rooms must be used to clean raw and RTE equipment
- Separation of Raw and RTE in the environment, utensils, etc.
Supplier and External Manufacturer Outreach and Assessment Observations
Supplier or External Manufacturer

- In each step of the process, the manufacturer of Finished Goods must “know” their suppliers:
  - GMPs
  - Sanitation
  - Traceability
  - Validation
  - Impact of other clients’ products/ingredients
  - Their suppliers
  - Cooperative connection
- Food Safety is not proprietary!
Technical Visits

During a technical visit, the Microbiologist and team would review:

- Flow of raw and processed product
- HACCP Program
- Pathogen Environmental Monitoring Program
- Sanitation programs and checks
- Air flow, filtration and quality
- Personnel traffic
- Water programs
- Zoning
“Show Stoppers”

- No process (thermal/chemical) validation
- Shared equipment for raw & RTE
- Lack of physical separation of Raw & RTE open product
- Inadequate air filtration & movement

- Discussion with the supplier to determine what it takes to meet expectations
Sustaining Knowledge and Expectations
Getting Ahead of the Curve

- Promote Nut Handbook for use in training programs among trade groups
  - Assist industry in implementing preventive controls in anticipation of legislative and regulatory developments

- Overall goal of the Nut Safety Initiative
  - Minimize food safety risks associated with nut products
  - Help ensure consumer confidence
Follow up: Ongoing

Key Considerations are:

- Follow up visit or conversation, once the expectations between supplier and buyer are understood
- Maintaining focus and commitment to sustained compliance to expectations

Examples:

- Expect annual new product or equipment validation
- Expect annual review of HACCP and PEM Programs
Build Sustainable Training

- Reach out to suppliers and co-manufacturers to:
  - Share
  - Educate
  - Discuss

- Build and adopt available industry training courses (GMA and other trade groups)

- Focus on general Micro, PEM, Zoning, GMP, training and reporting results, process validation
Take away

- Avoid complacency. Create a “safety checklist” for yourself, with a “safety calendar”
- Food Safety issues impact all of us, as we have experienced recently
- We need each other’s ideas & cooperation and sharing
- Food safety is not negotiable (or proprietary)
- Science based & practical
Citizens Petition

- GMA Nut Safety Task Force
  - GMA & 11 other Trades
  - Including NPSA
- Requesting FDA develop guidance
  - Controlling food safety hazards in nuts
- Handbook to be submitted with Petition
  - As a resource
Thank You
Additional Resource: GMA Food Supply Chain Handbook

Available in:

- English
- Spanish
- Mandarin
- French
- Russian

www.gmaonline.org