

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

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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 (<http://www.gmaonline.org/science/SalmonellaControlGuidance.pdf>), press release, publications in FPT, and webinar.

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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



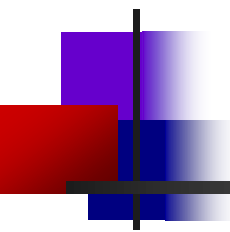
Elements

- 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

