

EFFECTIVE INDUSTRY FOOD

ALLERGEN MANAGEMENT—A

COMPREHENSIVE APPROACH

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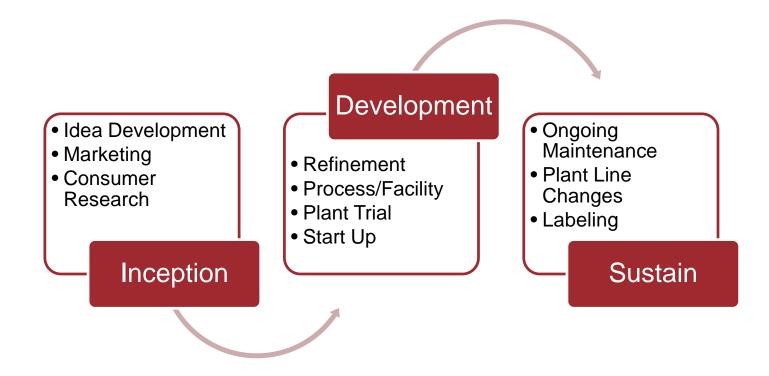
Globally, Food Allergens Account for Many, if Not Most, Recalls

- More than 170 foods have been reported to cause allergic reactions
- Researchers estimate that up to 15 million Americans have food allergies, including 5.9 million children under age 18
 - 1 in 13 children or roughly 2 for every classroom
- ~30% of children with food allergies are allergic to more than one food
- The US CDC reports that the prevalence of food allergy in children increased by 50% between 1997 and 2011
- Each year in the U.S., 200,000 people require emergency medical care for allergic reactions to food
- About 1 in 3 children with food allergy reports being bullied as a result
- Caring for children with food allergies costs U.S. families nearly \$25 billion, annually

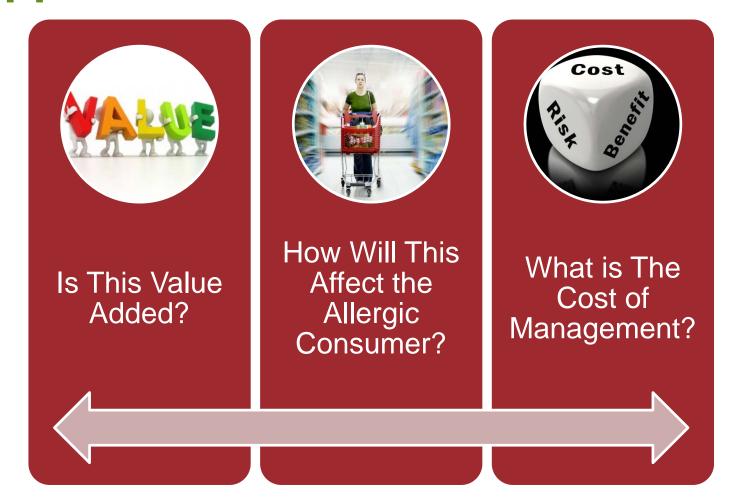
Information Derived from FARE - www.foodallergy.org

Food Allergen Management Starts with the Food Industry

Allergen Control Starts at the Product's Inception and Continues Throughout Its Lifecycle



Inception Requires a Holistic Approach



The Development Process Is Not Trivial

Supply Chain

Unit Ops

Packaging /Labeling

Supply Chain Analysis Helps Determine Risk and Labeling



Suppliers Must Comply With Specific Standards

- Suppliers must have a documented allergen control plan
 - Includes having Supplier Allergen Control Expectations
- Written assurance from suppliers that purchased ingredients do not contain any undeclared allergens (i.e. company and/or regulatory compliance, etc.)
- Suppliers are required to provide notification of any changes in the allergen status of the ingredient prior to making such change
- Suppliers are to ensure that ingredients are shipped in clearly marked, sealed containers that are not damaged or broken

In Most Cases, Supplier Manufacturing Sites Should Be Audited

- Depending on risk, audit your suppliers to assess the effectiveness of their allergen control plan
 - Ensure the plan is being implemented by "walking the floor"
 - Allergen control should be a high priority
- Review suppliers allergen cleaning procedures to ensure that they are properly validated on a regular basis, or whenever there is a change that may affect the allergen status
- Review past audit scores and/or conclusions to understand their compliance to safety and regulatory standards

Sustainability Requires Adherence to the "3 Ss"







Segregate

Schedule

Sanitize*
(Includes
Sanitary
Design)

Unit Operations Must Be a Consideration When Managing Allergens

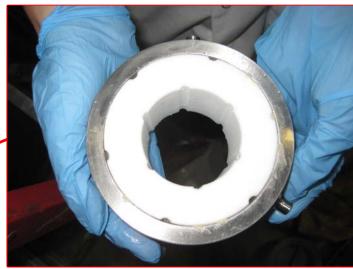
Sanitary Design

Management of other Allergens

Ability to Inspect

"Visually Clean" is the Gold Standard, but Be Careful





Understanding Unit Ops. Is Critical



Sanitary Design of Equipment Is Extremely Important



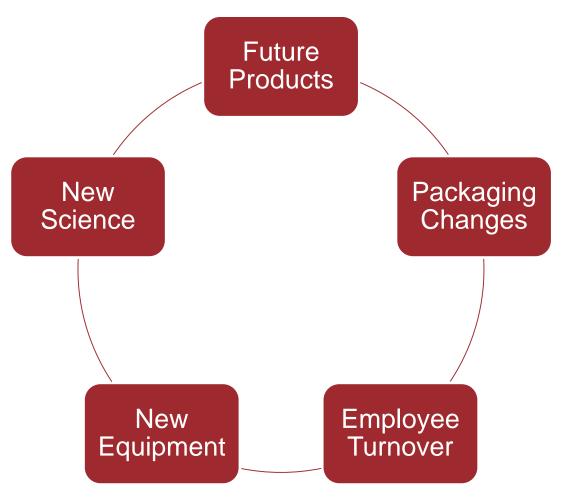


"KISS" – "Keep it Simple Stupid" Is a Concept That Is Critical to Sanitary Design





Management is Not Finite – It Requires Ongoing Maintenance



In the End, It's Important to Ask the Right Questions*

- Do we really need to add this ingredient or product to our portfolio?
- Is this a dedicated line or other products produced that contain different food allergens?
- Can we adequately clean the line after an allergenic run?
- If we cannot adequately clean, do we cross label?
 - Labeling in lieu of GMPs is illegal
- What is the form of the allergen?
 - Particulate?
 - Homogenous mix?
- How do we train our employees?
- Is there any new science we need to consider?

*not a comprehensive list

Food Safety Is Non-Negotiable, It is Foundational



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