Food Allergen Management Training
Training Overview

• Food Allergens
  – What they are and what they do?

• Allergen Management in Manufacture
  – Making food safe for all consumers

• Training and Education
  – Raising awareness at all levels

• Allergen Labelling
  – Proper use of allergen labelling
What is Allergy?

A reaction of the immune system to a normally harmless substance

Food proteins
Substances (eg. Latex)
Aeroallergens
  • House Dust Mites
  • Pollens
  • Moulds and more….

Stinging Insects
Drugs
Adverse Reactions to Foods

Toxic

Food Poisoning

Food Intolerance
eg. Lactose intolerance
Gluten intolerance

IgE/Th2 Mediated
eg. Eczema
Urticaria (hives)
Anaphylaxis

Non-Toxic

Food Allergy

Non-IgE mediated
Intestinal Manifestations
The Allergic Reaction

- Dermal – skin breaks out in hives or eczema
- Gastro intestinal – nausea, cramps, diarrhoea
- Respiratory – struggle for air
- Circulatory – blood pressure drops, lose consciousness
- Anaphylaxis – in rare cases, multiple organ systems are triggered and death can occur in as little as ten minutes
Symptoms of Anaphylaxis
The Allergic Response

Trace amounts can cause a reaction

• Lowest dose able to provoke a reaction has not been calculated

Sensitivity differs between individuals and depends on type of food

There is no cure for food allergies…

*Avoidance of the food is the only protection*
Major Food Allergens

90%
- Peanut
- Tree nut
- Milk
- Egg
- Soy
- Fish
- Shellfish
- Wheat
- Sesame

10%
- Hundreds of others
Prevalence

- 6-8% of children under 3 yrs and 2% of adults have at least one food allergy
- Many infants outgrow their food allergy
- Especially true if the food allergy occurs before the age of 3 yrs
- Some food allergies (eg. peanuts) are more likely to persist than others (eg. milk, eggs)
## Predominant Food Allergens

<table>
<thead>
<tr>
<th>Children</th>
<th>Adults</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Peanut</td>
<td>• Peanuts</td>
</tr>
<tr>
<td>• Tree nuts</td>
<td>• Tree nuts</td>
</tr>
<tr>
<td>• Soy</td>
<td>• Crustacea</td>
</tr>
<tr>
<td>• Milk</td>
<td>(shrimp, crab, lobster)</td>
</tr>
<tr>
<td>• Eggs</td>
<td>• Fish</td>
</tr>
<tr>
<td>• Wheat</td>
<td>• Sesame</td>
</tr>
</tbody>
</table>
Why is Food Allergy important to the Food Industry?

- Food allergies are increasing in prevalence, are potentially life-threatening and there is no cure
- Successful management is through avoidance of the food
- Consumers lives are at risk from eating formulated foods (hidden ingredients)
- Awareness, Education & Communication can prevent deaths & improve quality of life of food-allergic consumers
ANZ Product Recalls: May 04 – April 05

Recall causes as a proportion of total
(www.foodstandards.gov.au)

- Micro: 22%
- Foreign Matter: 22%
- Other: 6%
- Food Allergens: 50%
ANZ Product Recalls: May 04 – April 05
Proportion of recalls by allergen type
(www.foodstandards.gov.au)
# Food [FSANZ]

New Search

There are 43 Recalls with this criteria.

Records 1 to 43 of 43

<table>
<thead>
<tr>
<th>PRA Number</th>
<th>Product Name</th>
<th>Recall Type</th>
<th>Date Created</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005/1936</td>
<td>Fresh Milk packed in 2 litre plastic bottles</td>
<td>Food [FSANZ]</td>
<td>09/08/2005</td>
</tr>
<tr>
<td>2005/1923</td>
<td>AUS SOYA Tofu - 5 products</td>
<td>Food [FSANZ]</td>
<td>04/08/2005</td>
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<tr>
<td>2005/1915</td>
<td>Pear &amp; hazelnut pyramid (fruit paste) &amp; Deluxe Party Box</td>
<td>Food [FSANZ]</td>
<td>28/07/2005</td>
</tr>
<tr>
<td>2005/7697</td>
<td>Pun Chen Lye Water</td>
<td>Food [FSANZ]</td>
<td>20/07/2005</td>
</tr>
<tr>
<td>2005/7879</td>
<td>Skinny Milk</td>
<td>Food [FSANZ]</td>
<td>14/07/2005</td>
</tr>
<tr>
<td>2005/7001</td>
<td>Hello Bee Bee Pon Rice Snack (Gausteau de Riz)</td>
<td>Food [FSANZ]</td>
<td>14/07/2005</td>
</tr>
<tr>
<td>2005/7862</td>
<td>Coles Farmland Natural Spring Water</td>
<td>Food [FSANZ]</td>
<td>04/07/2005</td>
</tr>
<tr>
<td>2005/7867</td>
<td>Mars and Snickers Bars</td>
<td>Food [FSANZ]</td>
<td>04/07/2005</td>
</tr>
<tr>
<td>2005/7853</td>
<td>Woolworths Homebrand Milk Chocolate Sultanas</td>
<td>Food [FSANZ]</td>
<td>01/07/2005</td>
</tr>
<tr>
<td>2005/7858</td>
<td>100% Real Guava</td>
<td>Food</td>
<td>01/07/2005</td>
</tr>
</tbody>
</table>
Where do risks occur?

- Research and Development
- Engineering and System Design
- Raw Materials
- Production Scheduling
- Labelling and Packaging
- Rework
- Cleaning
- Human Error
Research & Development

- Minimise use of allergenic ingredients
- Design formula to add allergenic ingredients at end of process
- Recommend accessible/cleanable equipment for new product design
- Allow for adequate sanitation when testing on production lines
- Ensure allergens will be readily identifiable on finished product labels
Engineering & System Design

- Design access for cleanouts and inspection
- Isolate allergen addition points
- Dedicate rework systems
- Eliminate cross over and poor product containment points
- Dedicate production systems and/or install parallel modules for units not cleanable
Raw Materials

- Assess allergens in all raw materials
- Audit suppliers & co-packers, and help develop their awareness
- Always ask the allergen question
- Be vigilant in changes to ingredient specs
- Review possible sources of contamination from other raw materials eg. recycled/reused containers
Production Scheduling

- Dedicate production systems
- Longer run times/minimise change-overs
- Produce ‘Allergen’ containing products at end of production sequence
- Where possible, control each allergen separately from other allergens
- Allow for thorough clean out time between runs
- Confirm correct packaging available
Labelling & Packaging

• Ensure label reflects current formula
• Review label accuracy when:
  - an ingredient change/substitution is made
  - accelerating the intro of an “improved” formula
• Appropriately manage excess packaging inventory/write offs
• Ensure no mixed cartons
  - supplier capability
  - scanners at printer and in your plant
Rework

- Clearly label all rework
- Ensure refeed systems can be cleaned
- Post instructions on the use of rework along with other operator instructions
- Promptly report any misuse of rework
- Audit rework periodically to ensure proper identification and use
- Dedicate refeed/regrind systems
Cleaning practices

• Allow for adequate cleanout between runs
• Disassemble and manually clean equipment that cannot be cleaned thoroughly in place
• Properly clean accessory tools or equipment (ie. scoops, bins, hoppers, etc)
• Dedicate equipment that is difficult to clean
• Use alternative cleaning measures where wet wash is not viable eg. sugar or salt flush
Training & Communication

- Training manuals
- Policies and procedures
- Certification
- Plant communications
- Videos
Components of an Allergen Policy

- Summary of Regulations and Laws
- Identifying and minimising allergen hazards in the plant
- How to avoiding cross-contact in the plant
- Policy on labelling and precautionary statements
- Training and education for staff, suppliers, contractors and vendors
Components of an Allergen Plan

- Raw materials & Supply chain management
- Labelling
- Goods Inwards, Storage & Handling
- Product Formulation & Development
- Production Design & Scheduling
- Operations
- Marketing
- Quality Assurance
- Recall plan
- Executive sign-off
Allergens must be declared when present as:

- an ingredient; or
- an ingredient of a compound ingredient; or
- a food additive or component of a food additive; or
- a processing aid or component of a processing aid.

Labelling:
ANZ Food Standard 1.2.3
Substances that must be declared

- Cereals containing gluten (wheat, rye, oats, barley)
- Peanuts
- Crustacea and their products
- Egg and egg products
- Fish and fish products
- Milk and milk products
- Tree nuts (eg brazil, cashew, etc)
- Sesame seeds and their products
- Soybeans, and their products
- Added Sulphites in concentrations of 10mg/kg or more
Allergen Labelling

- Label in a way that is useful to consumers:
- Consistent & Legible
- Near or in ingredients list
- Common English language
- Necessary detail eg. “sunflower oil” rather than “vegetable oil” so consumers know it is safe for them
- Avoid precautionary labelling such as “May contain”
Precautionary labelling!
Why Avoid Precautionary labelling?

• To protect the allergic consumer
• Do not leave it to the consumer to guess
• You know more about your systems than they do - you should make the safety decision
• “Contains traces of…” makes a positive statement to the allergic consumer that the product should be avoided
Allergens are not always obvious

- Baking powder – wheat?
- Cocoa, Icing sugar – soy or wheat?
- Amylase – from cereal?
- Colours & flavours – fish gelatin encapsulation?
- Coconut milk – casein?
- Corn flour, starch – wheat?
- MSG, Xanthan etc – check fermentation substrate and nitrogen source
- HVP/TVP – Soy, Wheat?
- Vegetable oil – peanut, sesame, soy?
- Vinegar – fining agents; milk, egg, fish?
- Whitener – wheat or milk?
- Tocopherols, antioxidants – soy?
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www.allergenbureau.net