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# Food Allergens: An Update

British Columbia Food Protection Association  
Speaker's Evening, November 21, 2000  
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# Outline

- Food Allergen
- CFIA Strategies
- Reasons for Undeclared Allergens
- Impact of Labelling Regulations
- Allergy Alerts & Recalls
- Frequent Serious Food Allergens
- Affected Commodities
- Current Allergen Methodology
- Impact on the Food Industry



# FOOD ALLERGY

- An immunologic (IgE-related) reaction resulting from the ingestion and in some cases skin contact or inhalation of a food or food additive, and is unrelated to any physiologic effect of the food or food component.
- Type I mediated allergic reactions usually involve the glycoprotein portion of a food.
- **Food anaphylaxis** is the severe, sometimes fatal, allergic reaction to food, involving two or more systems in the body, in which the immunologic activity of IgE antibodies and the release of chemical mediators are involved.
- The route of allergen administration, dosage, frequency of exposure and genetic factors all determine the type and severity of an individual's allergic response.



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# Reasons for Undeclared Allergens

- Incomplete cleaning during processing, storage and transport;
- Unauthorized ingredient changes, substitutions or additions which are not reflected on the product label;
- Ingredients not labeled accurately;
- Unknown treatment of raw materials;
- Use of rework materials containing allergens;
- Poor labeling of second generation food additives [some exemptions exist];
- Misrepresentation of ingredient common name, e.g. mandelonas, goober peas;
- Product sold from bulk or over the counter;
- Mix up of packaging materials during manufacturing or product salvaging;
- Labelling exemptions.



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# Impact of Food and Drug Regulations on Allergen Labelling

**Allergens are not always declared on labels  
because of:**

- component exemptions for many standardized foods;
- use of class names for seasonings, flavourings, spices, etc.;
- few specific requirements for declaring allergens;
- most problems are from cross-contamination and mislabelling.



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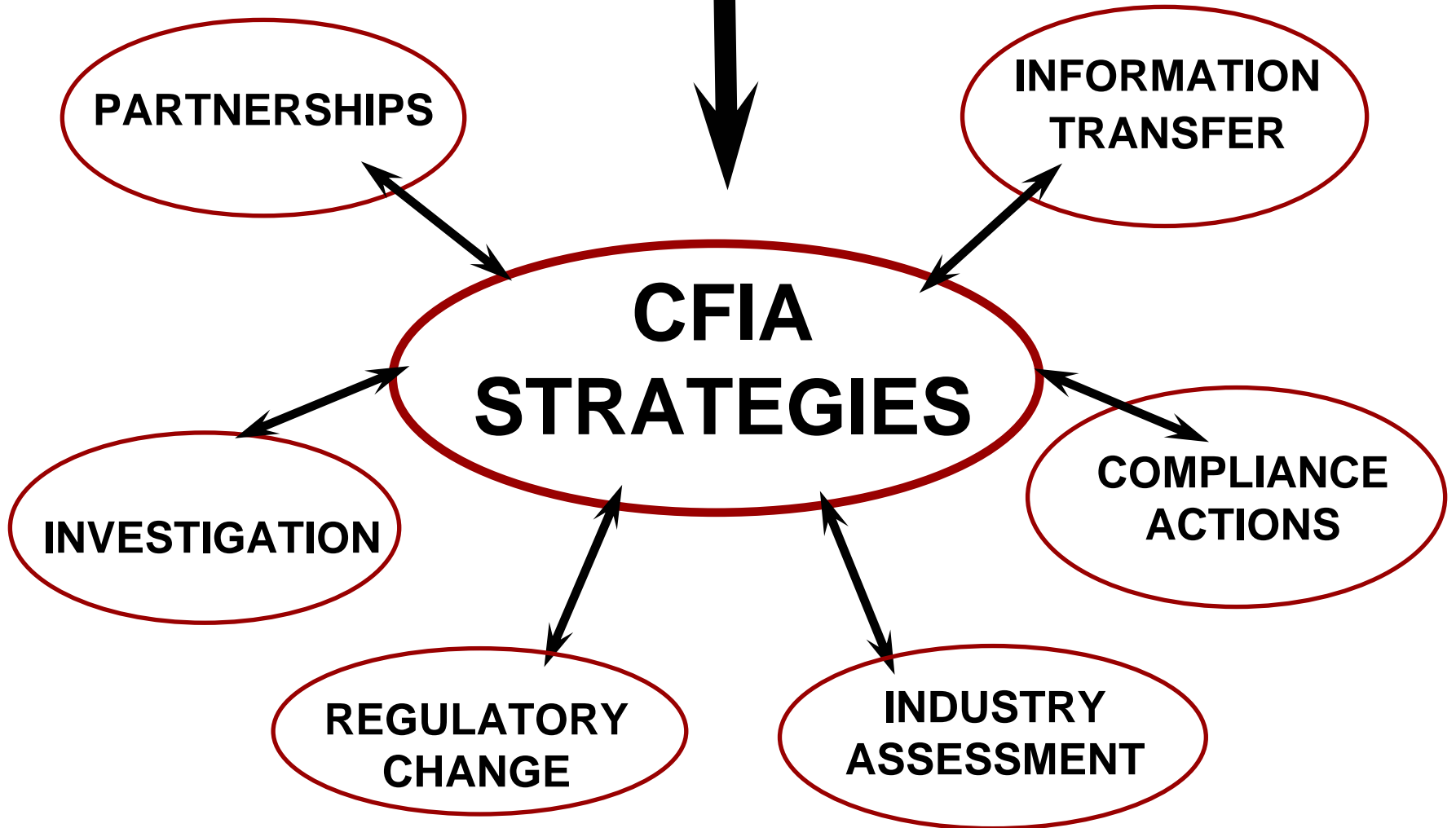
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# **INGREDIENTS OF WORCESTERSHIRE SAUCE AS SOLD**

**(not declared when less than 2% of product)**

**malt vinegar, white vinegar,  
blackstrap molasses, soy sauce  
(water, salt, hydrolyzed soy protein,  
corn syrup, caramel), brown  
sugar, spices, tamarind  
concentrate, salt, onion powder,  
garlic powder, anchovies,  
caramel, citric acid**

# Food Allergies





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# Partnerships

## HEALTH CANADA

- setting health & safety standards
- developing regulations
- Health Risk Assessment (HRA), e.g. for food recalls

## CFIA

- providing science based information to industry
- inspecting, monitoring and investigating food labelling and manufacturing practices
- recalling foods when required

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# Partnerships

## **INDUSTRY & ASSOCIATIONS**

- ensuring foods are safe and accurately labeled
- developing an allergy awareness plan
- information transfer

## **CONSUMERS & ASSOCIATIONS**

- reading labels carefully
- avoiding questionable foods
- information transfer

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# Recall Definitions

- **Class 1**
  - a reasonable probability that the use of, or exposure to, a violative product **will cause serious health consequences or death.**
- **Class 2**
  - the use of, or exposure to, a violative product **may cause temporary adverse health consequences** or where the probability of serious health consequences is remote.
- **Class 3**
  - the use of, or exposure to, a violative product is **not likely to cause any adverse health consequences.**

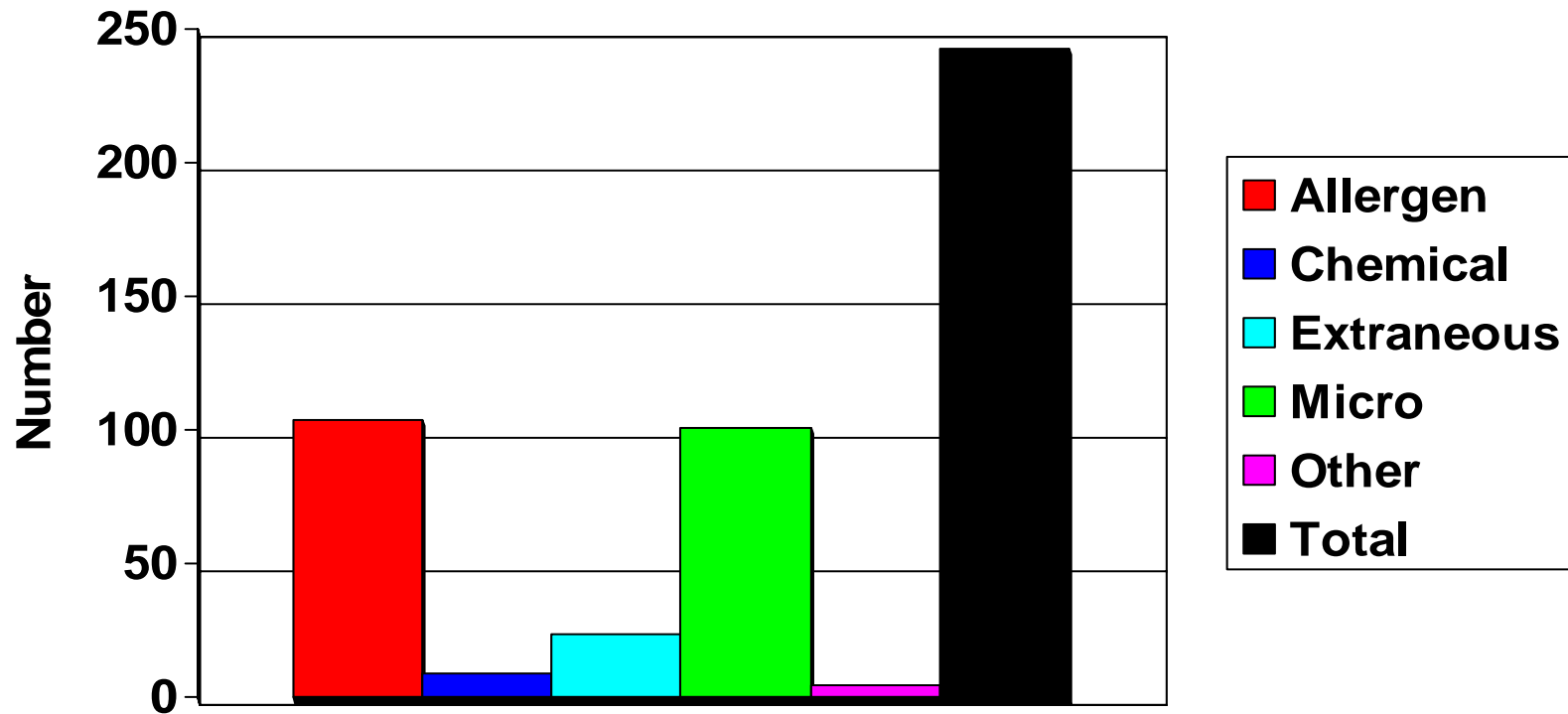


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# Recall Statistics

## April 1, 1999 - March 31, 2000



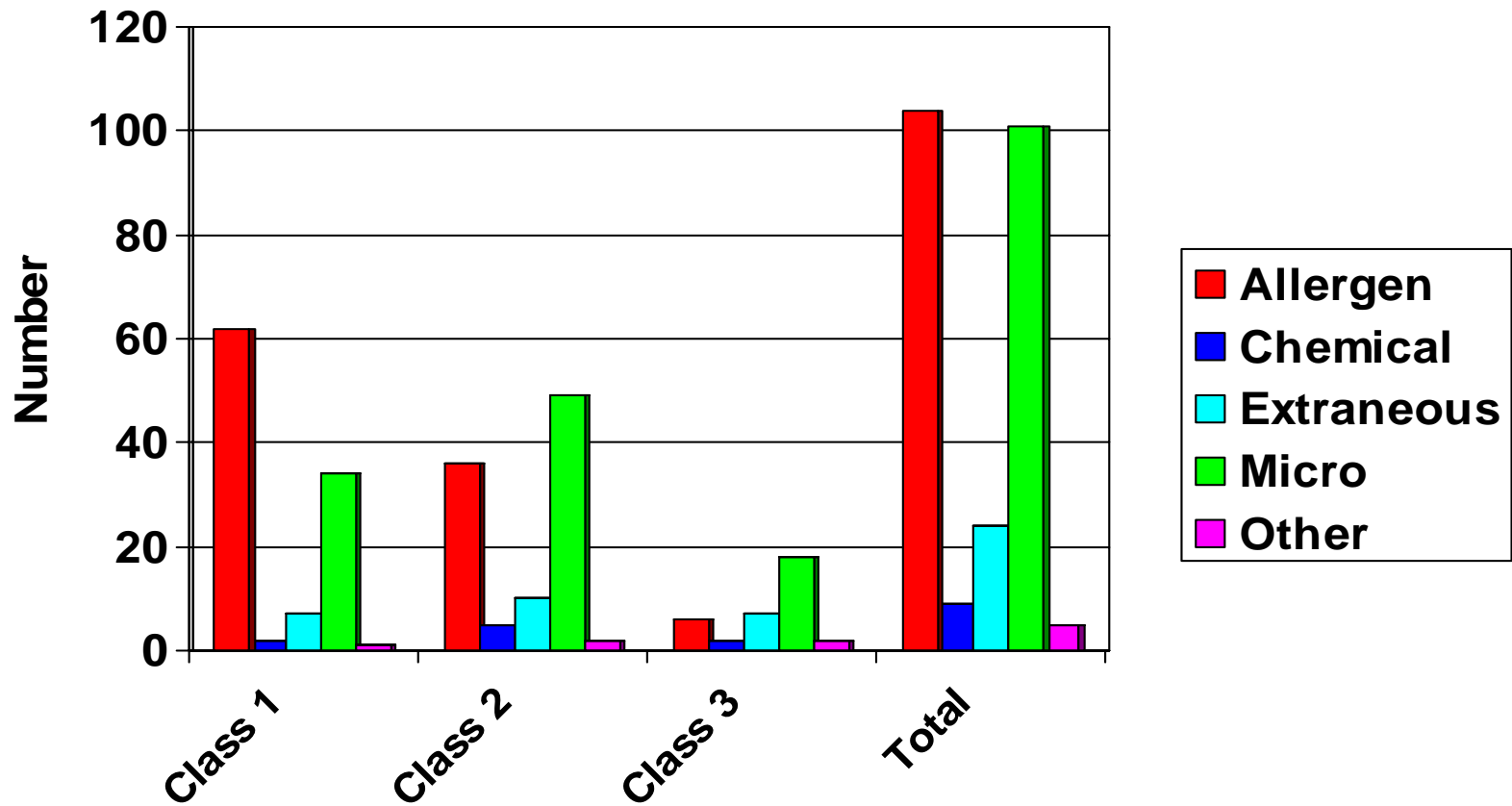


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# Recall Statistics

## April 1, 1999 - March 31, 2000

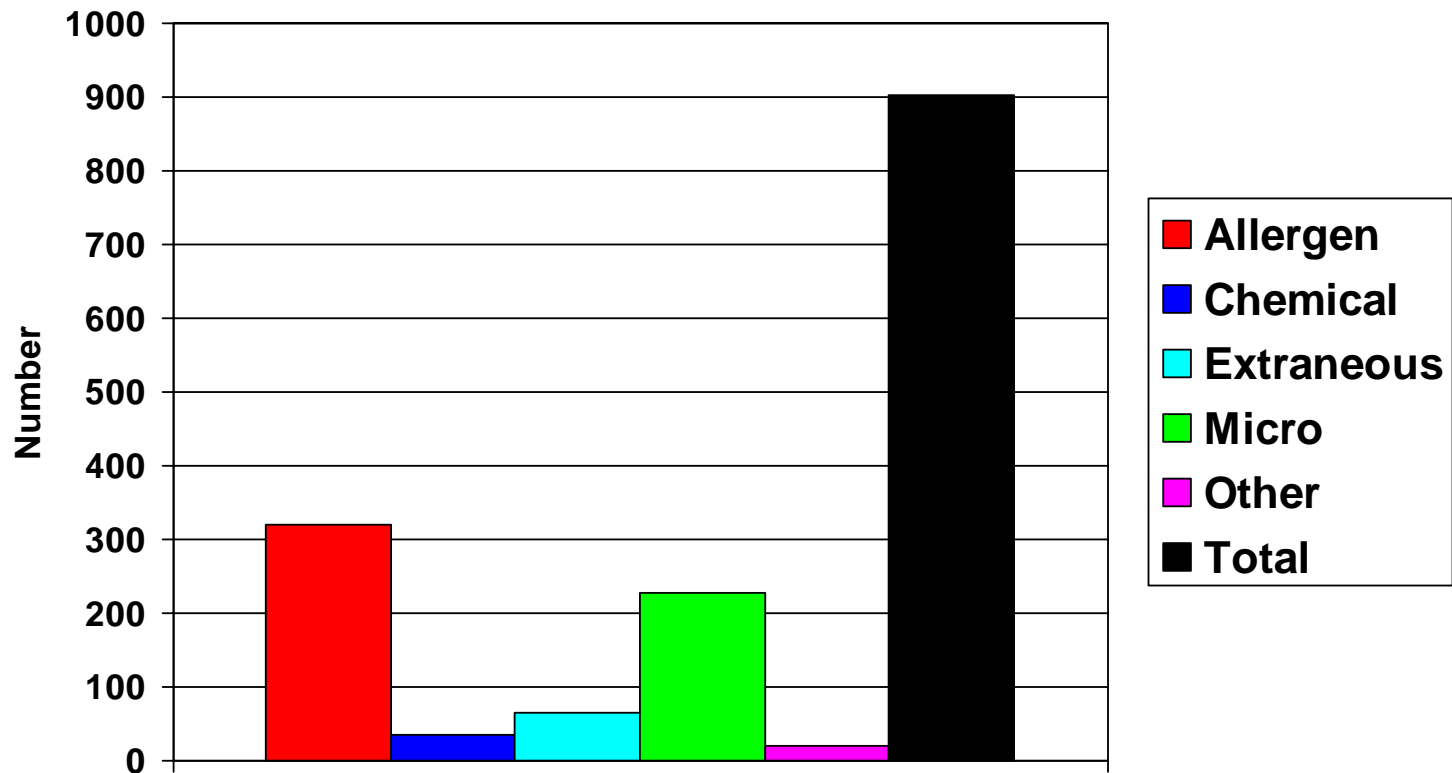




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# Recall Statistics 1997 - 2000

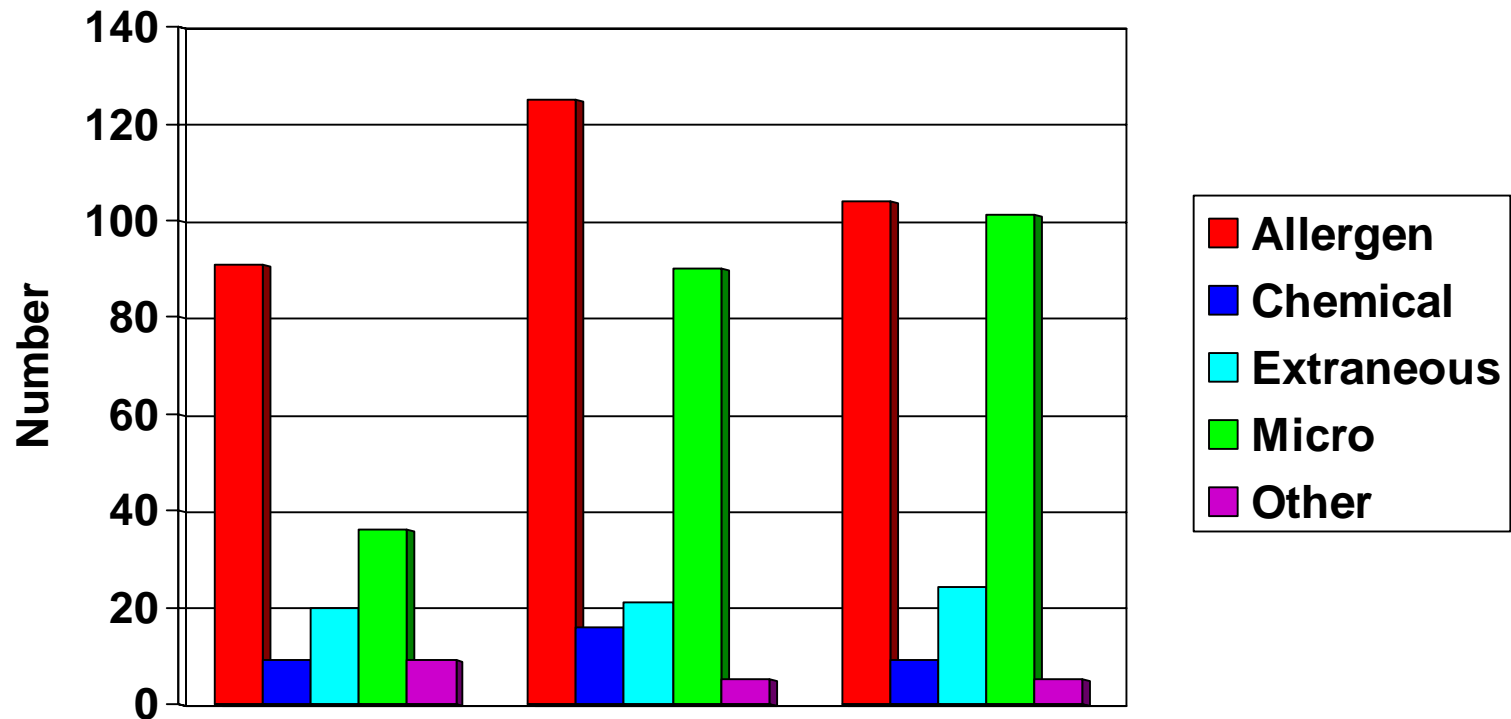




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# Recall Statistics Three Year Summary





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# REGULATORY CHANGE

- Labelling of Foods Causing Severe Adverse Reactions in Canadians
  - A Joint Regulatory Review Project by Health Canada and Canadian Food Inspection Agency.
- To identify foods that could cause medical problems that are:
  - life threatening
  - seriously debilitating; and,
  - associated with serious chronic disease results.



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# Scientific Literature Review

- Published under the title:

## **“Common Allergenic Foods and Their Labelling in Canada - A Review”**

Canadian Journal of Allergy & Clinical Immunology, 1999: Volume 4, No. 3:  
pages 118-141

- Available at:

<http://www.cfia-acia.agr.ca/english/ppc/consumer/labelling.html>



## COMPARISON OF MOST COMMON FOODS CAUSING ADVERSE REACTIONS IN CHILDREN

| FOOD               | CANADA <sup>1</sup> | UNITED KINGDOM <sup>2</sup> | UNITED STATES <sup>3</sup> |
|--------------------|---------------------|-----------------------------|----------------------------|
| egg                | √                   | √                           | √ (25%)                    |
| peanut             | √                   | √                           | √ (24%)                    |
| milk               | √                   | √                           | √ (23%)                    |
| tree nuts          | √                   | √                           | √ (10%)                    |
| soy                | √                   | √                           | √ ( 6%)                    |
| fish and shellfish | √                   |                             | √ ( 3%)                    |
| wheat              |                     | √                           | √ (2.5%)                   |

- 1 Canadian Pediatric Society, 1994
- 2 Hide et al, (1994)
- 3 Bock and Atkins (1990)



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# CFIA/HC

## Recommendation 1

**The following foods and their derivatives, when added as ingredients or components to prepackaged foods should always be declared of food labels by their specific common names:**

- Peanuts
- tree nuts
- sesame seeds
- milk
- eggs
- fish crustaceans and shellfish
- soy
- wheat
- sulphites



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# CFIA/HC

## Recommendation 2

- **The plant species should be identified in the common names on food labels of all forms of hydrolyzed proteins, starches and lecithin (e.g. hydrolyzed soy protein, modified wheat starch, soy lecithin).**



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# **CFIA/HC**

## **Recommendation 3**

- **Food manufacturers, importers, distributors, and food service establishments should develop an Allergy prevention Plan to manage allergy risks.**



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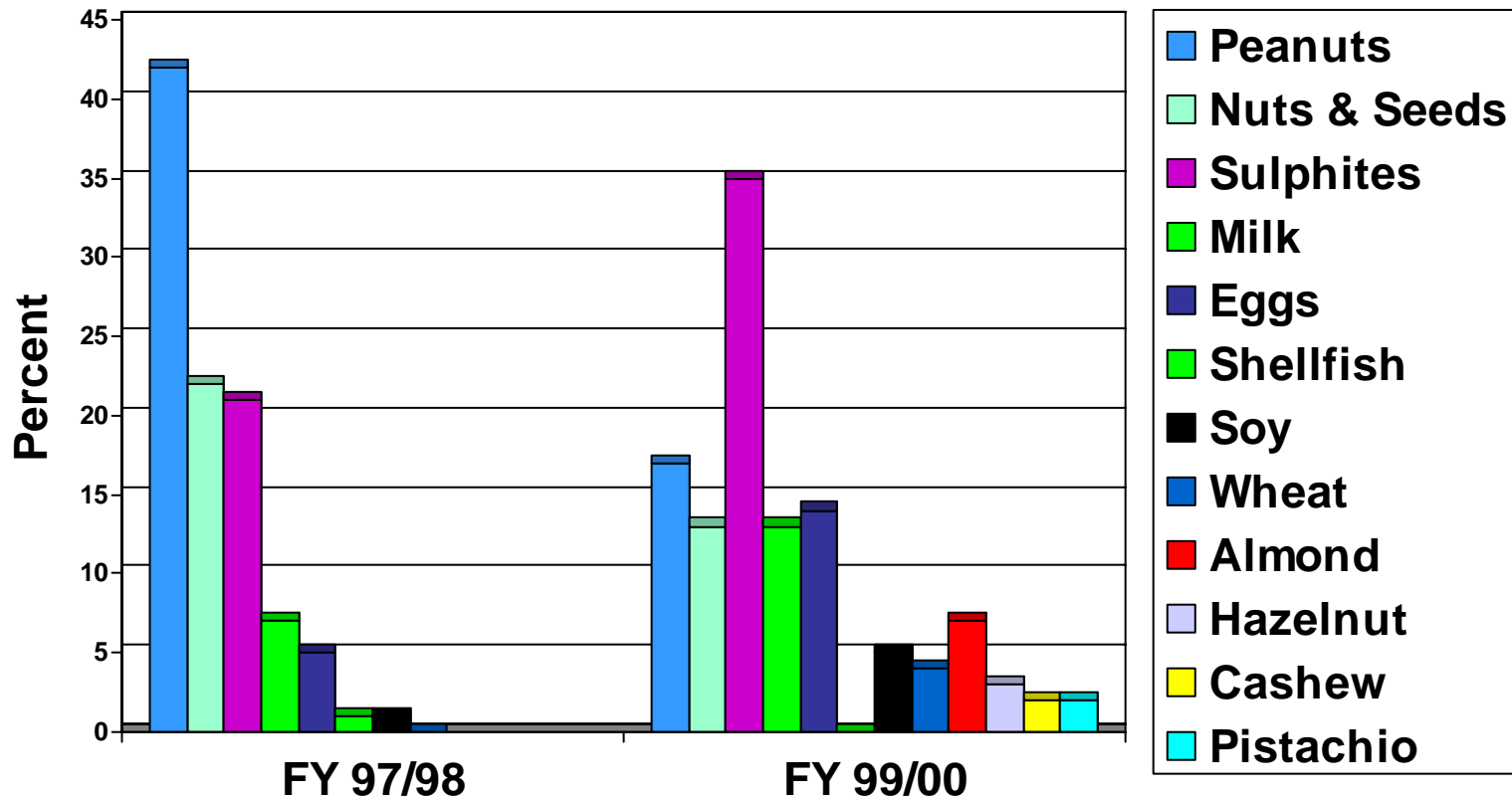
## **FOODS TO BE IDENTIFIED ON FOOD LABELS IRRESPECTIVE OF AMOUNT OR SOURCE**

- peanuts
- tree nuts (almonds, Brazil nuts, cashews, hazelnuts {filberts}, macadamia nuts, pecans, pinenuts, pistachios, walnuts)
- sesame seeds
- soy
- milk
- eggs
- fish, crustaceans (e.g. crab, crayfish, lobster, shrimp) & shellfish (e.g. clams, mussels, oysters, scallops)
- wheat
- sulphites

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# Recalls by Allergen





# Information Transfer

- to food inspection staff
- to industry:
  - Introduce the subject of food adverse reactions to plant managers and quality control personnel during investigations and industry sector assessments of food manufacturing and importer establishments.
- to the hypersensitive:
  - Arm the hypersensitive individual with the information that will allow him or her to make informed choices.



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# Resource Documents

- Common Allergenic Foods and Their Labelling in Canada - A Review
- Information Letter to Food Manufacturers, Importers, Distributors and their Associations, March 31, 1998
- Consumer Fact Sheets:
  - Labelling of Foods Causing Allergies and Sensitivities
  - Oral Allergy Syndrome
- Allergy-Related Inspections & Investigations
  - Allergen Prevention Plan for Food Establishments
  - Contacts for Allergy Associations and Information
- Industry Sector Assessments
  - Checklist for Managing Allergen Risk in Domestic and Imported Food Products
  - Developing Your Allergen Prevention Plan



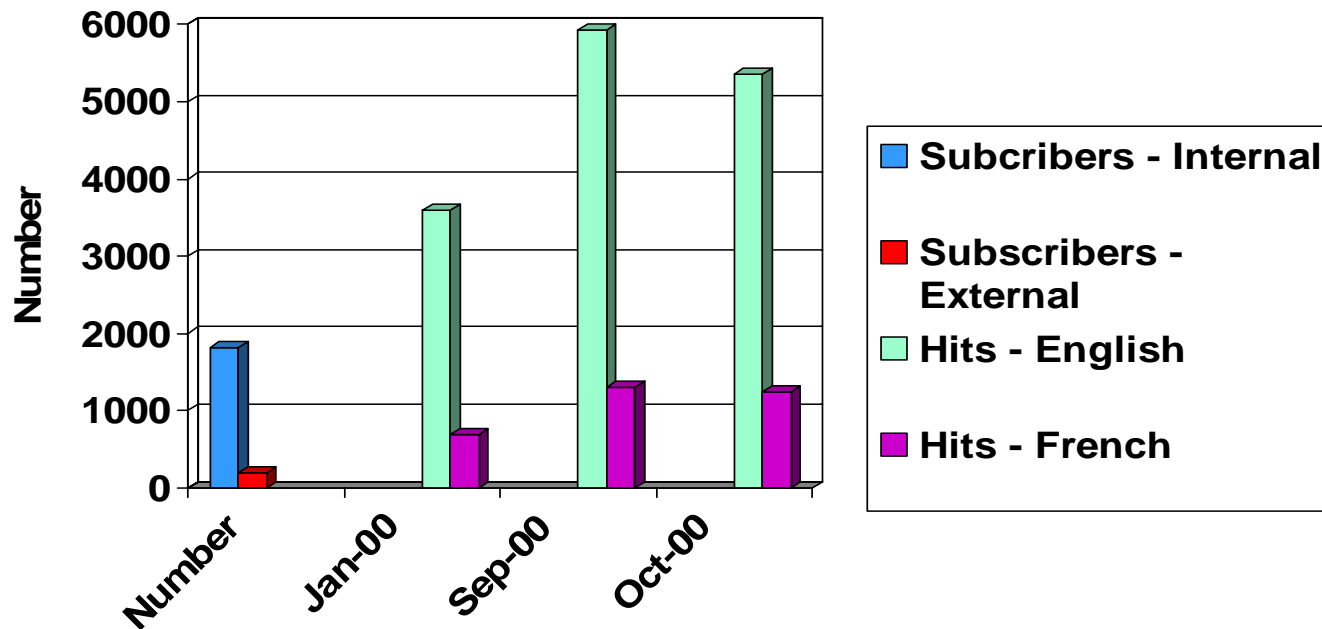
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# CFIA Website

[www.cfia-acia.agr.ca/english/corpafr/foodrecalls/recaltoce.shtml](http://www.cfia-acia.agr.ca/english/corpafr/foodrecalls/recaltoce.shtml)

[www.cfia-acia.agr.ca/francais/corpafr/foodrecalls/recaltocf.shtml](http://www.cfia-acia.agr.ca/francais/corpafr/foodrecalls/recaltocf.shtml)





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# National Allergen Industry Assessments

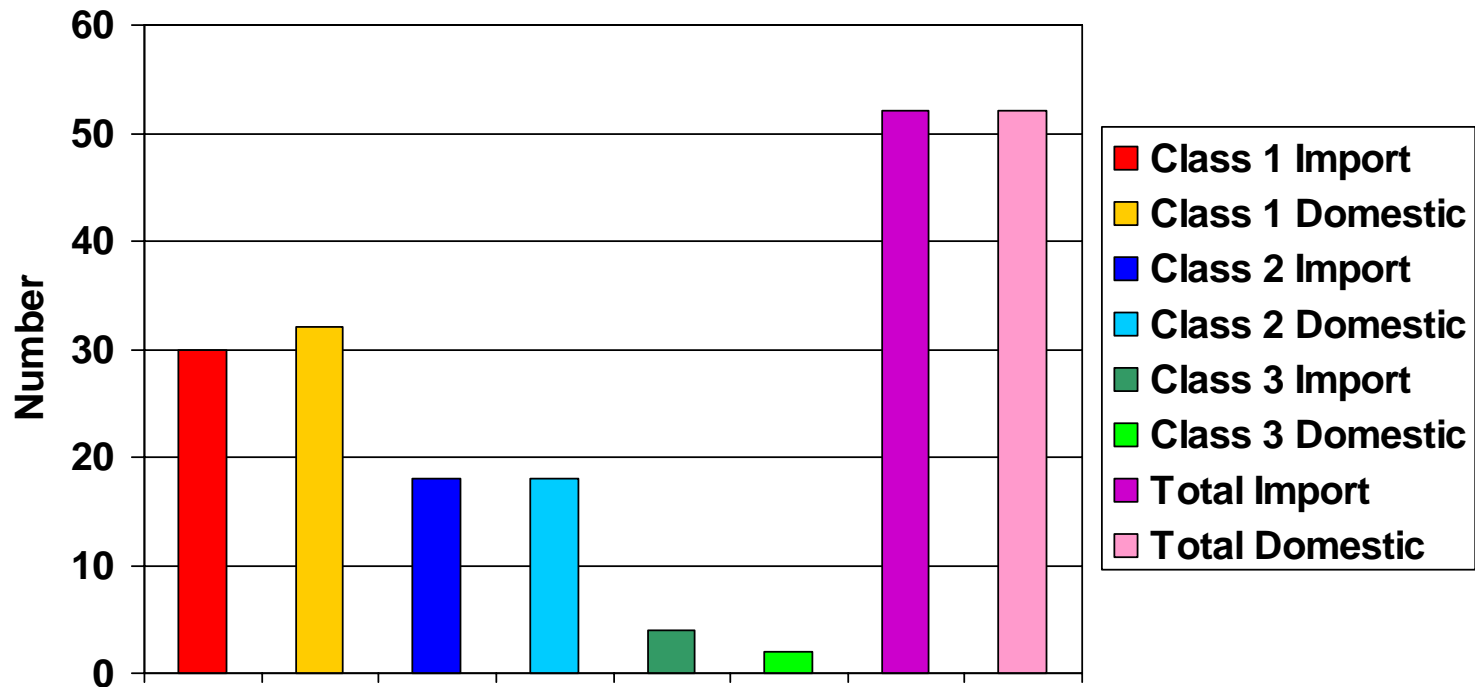
- Bureau of Food Safety and Consumer Protection has three projects underway to assess Allergen/Labelling controls in:
  - 1. Import Sector;
  - 2. Wholesale Bakery Sector; and,
  - 3. In-Store Bakery Sector.



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# Allergen Recall Statistics April 1999 - March 2000

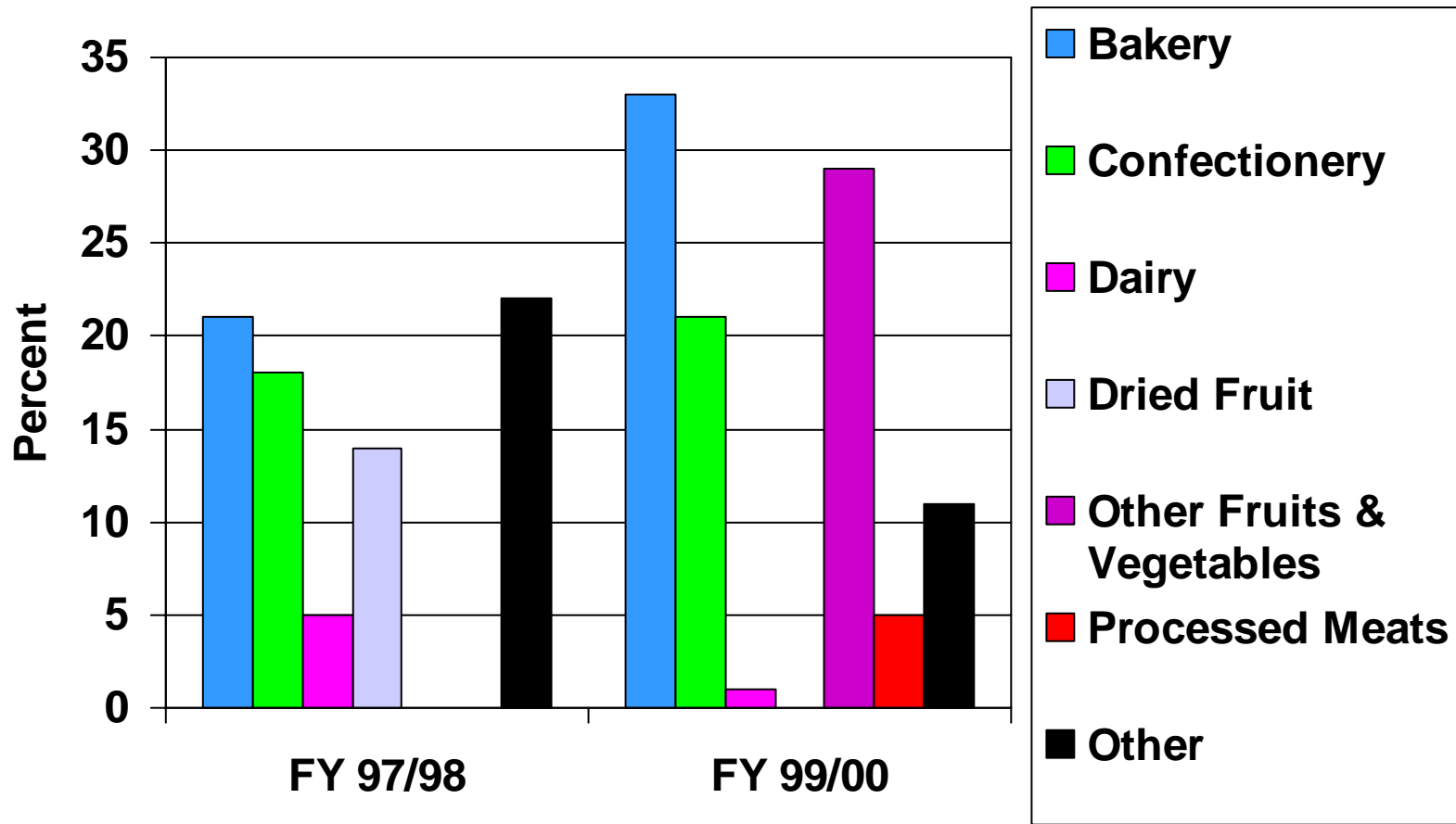




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# Recalls by Commodity





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# CFIA Current Methodology

- peanut
- hazelnut
- soy
- egg
- dairy
- gluten
- [sulphites]



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# Investigation & Assessment

- Visit or inspect food importing and manufacturing establishments. (Industry Sector Assessments)
- Determine level of awareness of the food adverse reaction issue.
- Perform label verification checks against formulations.
- Assess firms ability to prevent cross-over of products with food allergens.
- Are there controls in place?
  - Separation by line.
  - Separation by time.
  - Separation by a thorough cleaning and sanitation program.



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# ALLERGEN PREVENTION PLAN

- A systematic approach to prevent inadvertent allergen crossover within a food manufacturing establishment.
- Development and implementation of an Allergy Prevention Plan by importers and manufacturers is encouraged.



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# Precautionary Labelling

- Precautionary labelling is a voluntary, non-regulatory initiative to allow members of the public with food hypersensitivities to make informed choices about the food they consume.
  - Must be truthful, i.e. risk based;
  - Not to be used as substitute for GMP's;
  - Use only as last resort.
- For example “**may contain traces of peanuts**” or “**may contain peanuts**” would both be acceptable.
- Inspectors should ensure that the statements are used judiciously.



# Impact on Food Industry

- Strengthened labelling requirements for frequent serious allergens.
- Development of new allergen detection methodologies;
  - Impact on other food industry sectors;
  - Increase in Allergy Alerts & food recalls; and,
  - Increase in precautionary labelling.
- Creation of niche marketing opportunities.
- Need to develop and implement Allergen Prevention Plans.
- May need to review and adjust formulations.
- May need to review and adjust production scheduling and cleaning programs.
- Opportunities in food equipment design.