

# Case Study - Allergen control in the manufacturing environment

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# Overview

- Company overview
- Parmalat Bendigo
- Soy yoghurt process
- Evolution of allergen management at Parmalat
- Moving Forward



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# Parmalat

- Global Food Company – Italy, Canada, South Africa, Australia, Europe and South America.
- Production on six sites in Australia
- Products Produced –fresh dairy products, dairy yoghurt, soy yoghurt, soy milk, fruit juice, dairy desserts, longlife dairy products.
- Allergens of concern – dairy, soy, cereals, egg



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# Parmalat - Bendigo

- Parmalat Bendigo is located approximately 2 hours north of Melbourne
- The facility produces a wide range of products including fresh milks, flavoured milks, dairy desserts, dairy yoghurts, soy milks and yoghurts.
- Allergen risks on this site are milk and soy.



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# Major Challenges

Company directive to produce Soy Life range of products  
in 1997

- Shared equipment in manufacture of both Dairy and Soy products.
- Both dairy and soy can be manufactured on the same day.
- Maintaining flexible production schedule.
- Staff understanding of allergens and allergen control.



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# Soy Yoghurt Process

## Mixing

- Dry materials are mixed into a liquid.
- Major sources of cross contamination.



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# Soy Yoghurt Process

## Processing

- Pasteurising of mix into ferment vats.



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# Soy Yoghurt Process

## Fermentation

- Non-dairy based cultures used.



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# Soy Yoghurt Process

## Packaging

- Fruit added and product packed into tubs.
- Filling machines can be difficult to clean.



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# Control Measures

- Segregation of raw materials.
- Equipment that is difficult to clean is hand cleaned.
- Cleaning verified by Biotrace (rapid ATP) and allergen testing (swabs and rinse waters).
- Full clean before dairy or soy production.
- CIP reclaim changed between soy and dairy production.
- Finished product testing – positive release of soy product.



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# Evolution of allergen management

2003

- Testing soy finished product for milk residue.
- Environmental testing results in changes to cleaning procedures.
- Determine monitoring program.

## Challenges

- Increasing awareness of allergens to staff and management.
- Testing – how to do it, which test kits to use, what limits to apply.



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# Evolution of allergen management

2004

- Raw material review conducted for all allergens and changes made to ingredients.
- Continued finished product testing with minimal focus on environmental testing.

## Challenges

- Limited knowledge throughout the entire supply chain about allergens



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# Evolution of allergen management

2005

- Allergen training conducted on site by Agriquality for key staff, this resulted in:
  - Changes in clothing for staff handling soy products
  - Major review of the manufacturing process, more than 50 points across the process tested a minimum of 3 times to verify the cleaning process
  - CIP reclaim system – major source, now dumped each run
- Soy based culture for soy yoghurts



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# Evolution of allergen management

2005 cont...

- ATP Biotrace testing implemented for quick verification of cleaning, used in conjunction with ELISA testing.
- All soy products held pending allergen results.

## Challenges

- Ensuring all key staff attended the training (including marketing, research & development & senior management)
- Improvements in test kit limits
- Time required to reformulation of raw materials and finished products
- Stock losses and customer service



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# Evolution of allergen management

2006 and 2007

- Focus has moved to a whole company approach in managing allergens
- Allergen policy revised and allergen management procedures written (in line with AFGC guidelines)
- Raw material focus – eliminate where possible
- Product development focus – formulate out
- Product information form (AFGC) now used for all raw materials



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# Challenges moving forward

- Implement the VITAL risk assessment tool.
- Continue to assess where products are manufactured.
- Evaluate testing – is there a smarter way of testing.
- Refresher allergen training – all sites and upper management.
- Larger focus on raw material suppliers.



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*Thank You*



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