

Review of the literature and guidance on food allergen cleaning: Overview and acknowledgements

Results available: Results available

Area of research interest: [Food hypersensitivity](#)

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Background

People with food allergy must avoid eating the foods they are allergic to as they may react to very small amounts of such foods. Allergenic food left on surfaces or equipment could contaminate another food that is also prepared using the same surface or equipment. Cleaning of surfaces and equipment is therefore one way that businesses try to prevent contamination with food allergens.

Food businesses let people know that food could be contaminated with allergens using Precautionary Allergen Labelling (PAL) such as 'may contain' statements.

Evidence gathered from previous food industry consultations shows that there is uncertainty around the effectiveness of allergen cleaning which is a barrier to effective use of PAL.

Objective and approach

The aim of the work was to present information from international literature and guidance relating to the removal of food allergens from common food contact surfaces in food processing and food service environments, gathered during a literature review. A narrative literature review was undertaken using a bibliographic database (Food Science and Technology Abstracts).

Results

This study identified many factors that affected cleaning:

- Foodstuff: soil type, physical form, and food matrix – e.g., generally sticky paste residues are more difficult to remove than dry residues.
- Surface: material and its properties – e.g., stainless steel is generally the easiest surface to clean, whilst wood and cloth are the most difficult.

- Equipment: accessibility – e.g., inaccessible equipment may need to be dismantled or cleaned using techniques such as ‘push-through’ (the use of an inert material, physical object (‘pigs’) or foodstuff that does not contain any allergenic proteins).
- Cleaning parameters: time, mechanical action, chemical properties (of detergents or cleaning chemicals applied) and temperature.

Findings suggest that cleaning with water containing certain cleaning chemicals was generally better at removing food allergens than other types of cleaning, such as dry cleaning using brushes and vacuuming without water although it was recognised that wet cleaning is not always feasible. There is therefore no one way of cleaning that will be effective at removing all foods from all surfaces.

Overall the studies showed that the selection of an cleaning methodology should be determined on a case-by-case basis because it is not possible to state that one cleaning methodology will effectively clean in all scenarios due to many variables.

Conclusion

The findings of the review show some gaps on the efficacy of cleaning to remove food allergens for food service and catering, as well as SMEs. Research is therefore needed to acquire knowledge of the efficacy of existing cleaning procedures, which can then be used to inform guidance on best practice in these businesses.

To conclude the report provides an overview of the information found and recommendations for future work on which to base future research study designs, guidance development and subsequent industry practice to help businesses provide safe food for consumers with food allergies.

Dataset

Dataset contains the list of publications identified in the literature and guidance review on cleaning to remove food allergens.

[FSA Open Data Catalogue](#) and [data.gov.uk](#)

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