

# Tips to address meat, poultry and fish processing allergen risks

Today's heightened occurrence of food allergies and intolerances are difficult to ignore. Changing lifestyles, increased protection from germs, and certain 'healthy' or 'exotic' eating trends could all be contributing to the rise in intolerances or allergies.

by Phil Brown,  
European Managing Director,  
Fortress Technology, UK.  
[www.fortresstechnology.com](http://www.fortresstechnology.com)

This article examines the risks associated with factory-level ingredient cross-contamination and how equipment makers are responding to offer smarter, more flexible ways for meat, poultry and fish processors to adapt their cleaning procedures and minimise hygiene challenges at this critical point in the line.

As last year's Pret a Manger case underlined, news of a food allergy incident can carry a long way and do serious reputational damage to a brand. But how much of a risk is allergy in food and drink retail, and what can meat manufacturers be doing to combat it?

## An emerging concern

Annex II of the EU Food Information for Consumers Regulation No. 1169/2011 lists 14 food allergens that must always be labelled in pre-packed and non-pre-packed foods, among them milk, egg, peanut, cereal, soybeans, fish and crustacean shellfish.

Many reports suggest allergy to sesame, used extensively in pastes, ethnic dishes, sauces and meat and fish coatings, is an emerging concern.

Data confirms that the challenges around allergy in the UK are on the rise. The most recent estimate from Allergy UK puts the proportion of the UK adult population suffering from at least one allergic disorder at 44%. That this is a growing problem is borne out by the equivalent estimate for the child population, which stands at 50%.

Compared with these figures, the 1-2% of adults and 5-8% of children

believed by the organisation to have a food allergy might sound relatively low. Yet these conditions can be among the most serious.

The latest statistics from the Anaphylaxis Campaign, for people at risk of severe allergies, show that between 2011 and 2016, the number of UK hospital admissions with anaphylactic shock as the primary diagnosis rose by just under 20%. Over the same period, the number of admissions triggered by allergies of all kinds increased by 36%.

## Best practice

Larger manufacturers will, where possible, segregate production areas handling known allergens such as nuts. But for smaller manufacturers, this option may not be available. In this case, the emphasis must fall on hygiene and good process practices.

In fact, where allergens may be present and there is a risk of contamination being passed from batch to batch, cleaning of meat, poultry and fish inspection equipment must go well beyond normal hygienic requirements. Even where heat processing is involved, allergens can still survive high temperatures.

Overall, a significant number of meat and poultry plants are using a



Annex II of the EU Food Information for Consumers Regulation No. 1169/2011 lists 14 food allergens that must always be labelled in pre-packed and non-pre-packed foods.

wider range of dry and liquid ingredients as the trend towards more prepared or part-prepared products and combinations continues.

These options can take the form of sauces, mustards and marinades, herb and spice blends or other foods twinned with the main meat or poultry product. As a result, manufacturers have to be more circumspect about contaminant

detection. While not an exhaustive checklist, the following areas of advice provide a good starting point, in particular when it comes to the overlap between allergen control and metal detection:

- **Equipment cleaning protocols:** These should be formalised and included in staff training. Every cleaning process needs to be verified and documented.

As part of a validation process, regular tests, including swabs of Critical Control Points, should be scheduled to ensure these areas are allergen-free.

- **In-process metal detection:** Priorities and hazard analysis will be different for every plant, but many manufacturers will want to screen their different ingredient streams, liquid and solid, for contaminants rather than relying on end-of-line conveyor-based metal detection for packaged product.

Where ingredients have been assessed as higher-risk, it makes sense to screen them at an upstream point in the process. The costs associated with ejecting contaminated product at the far end of the processing and packing operation are likely to be appreciably higher.



Reports signify that 44% of the UK adult population suffer from at least one allergic disorder.

● **Powders and liquids:** Product residues, potentially including allergens, can be especially troublesome in gravity metal detection systems for powders and particulates. This might be the case in factories using herbs, spices or breadcrumbs for coating or seasoning. Likewise, liquids, semi-liquids and slurries in pipeline systems can pose problems of their own. Sauces and marinades could potentially contain mustard, sesame, nuts or soy, for instance. Hygiene processes must be thorough in both settings.

● **Overall system design:** Efficient product changeovers are critical to productivity. For factory managers facing regular changeovers of this sort, especially where allergen control is a priority, it is essential for processing, filling and packing lines to be designed to facilitate both quick and deep cleaning.

● **Metal detection system design:** When specifying in-process metal detection, contact surfaces on conveyor, pipeline and gravity systems should be as smooth and crevice-free as possible. This is partly to ensure that no traces of product, allergens or bacteria are left, but also to reduce



**Fortress Technology has launched a new meat pipeline system with reduced surface area and fewer fasteners, making cleaning easier for sanitation employees.**

the risk of cleaning agents not being fully rinsed away.

● **High-pressure cleaning:** High-pressure cleaning may well be deployed for fast, effective washdown, and the casing of the metal detector should be sufficiently robust to withstand this. When selecting a system, care should be taken to identify equipment with an ingress protection (IP) rating appropriate to the washdown regime being applied.

● **Reject mechanism:** Special attention should be paid to the reject unit. Ideally, this will be detachable (easily detached, but quickly and securely reattached, too) to allow thorough cleaning.

● **Other sources of risk:** Of course, there are many other potential sources of cross-contamination in a meat and poultry processing factory. The potential role of operators in spreading allergens by moving

ingredients around the floor in unsealed containers, running allergenic products at the start of the shift rather than the end, not changing or cleaning protective equipment, for example, needs to be driven home where the risks are especially high.

### Investing in the best

Purchasing the best metal detection equipment for the job may constitute only one portion of a much bigger picture for a complex meat and poultry business with multiple product lines.

Yet, it provides evidence that your company is taking the threat of contamination from allergens and pathogens seriously, and will make a real and valuable contribution to reducing those risks.

Fortress Technology recently launched two new metal detection innovations – a gravity unit for bulk and dried ingredients and an IP69K rated pipeline system to inspect sausage meat, ready meal ingredients, sauces and marinades.

Both of these directly address the requirement for thorough, verifiable and efficient cleaning in factories to combat the risk of contamination by allergens as well as foodborne pathogens. ■