Risk assessment and allergen management

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Allergen labelling regulations differ widely around the world, so allergen management continues to present a big challenge for food producers. For example, the EU requirement to label any of the 14 allergens on its list contrasts with Japan's requirement to label only five.

Even within the EU, a manufacturer that supplies its own brand and those of a variety of retailers will need to adopt different labelling practices on every product. It will also face the daily challenge of ensuring that the right product with the right ingredients goes into the right packaging with the appropriate labels.

Practical tools are needed to help manufacturers deal with this complexity, and to avoid the possibility that mistakes will happen that lead to expensive recalls.

The case for maximum limits

One factor that makes life difficult for all manufacturers is the absence of 'acceptable limits' for allergens (with the exception of sulphites). This has led to an over use of 'may contain' warnings on labels even in cases of negligible risk, and an over reaction from some product managers to the actual danger from the slightest risk of cross contamination.

The fact is that not all allergens are the same, nor do they present the same risks to consumers.

The EuroPrevall project, established in 2005, offers the possibility of reaching clinical agreement on safe limits. Part of the EuroPrevall project has been to obtain data on the levels at which different foods elicit an allergic response.

Contributions received from outside Europe potentially mean that the project could have relevance on a global scale, and could ultimately lead to the adoption of population based 'action levels' for some or even all of the most common allergens.

This effort has been supported by the MoniQa initiative, which has sought to harmonise methods for testing allergens in food. Clearly, there is no point in setting acceptable limits if there is no means of establishing whether the limits have been exceeded.

However, even if limits are agreed, food manufacturers will still have to understand, identify and manage their allergen risks.

Understanding risk

Risk assessment forms the basis of the most practical and useful approach to allergen management. That is why risk assessment is now a requirement of all the international standards that have received approval from the Global Food Safety Initiative (including V5 of the British Retail Consortium standard).

Risk assessment is the semi-quantitative estimation of whether a potential event is likely to occur in practice. It is normally expressed as a risk factor or score, arrived at by multiplying the hazard severity score by a score indicating the likelihood of the event occurring.

The HACCP approach

Risk assessment differs from the pure HACCP approach, which has been used widely in allergen management during the past 10 years. HACCP tends to treat all allergens as equivalent, leading to overuse of 'may contain' statements, and arguably, unnecessary cases of recall and withdrawal.

The HACCP approach has also meant that many manufacturers have focused on managing inconsequential and unlikely (and hence low-risk) cross contamination incidents.

All the evidence suggests that the vast majority of recalls are from putting the right product in the wrong box, or putting the wrong label on the right product.

That is not to say that cross contamination is irrelevant.

However, it is to recognise that once control measures have been put in place, (ingredient and equipment segregation, validated cleaning etc) risk assessment – incorporating hazard characterisation and robust prereq-

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uisite programmes – is the tool that will determine where the real vulnerabilities are and where most effort should be focused.

Risk assessment in practice

RSSL has developed its own quantitative risk assessment toolkit, which is an evolution of existing best practice guidance and has proved extremely useful in evaluating the premises and practices of a diverse range of food manufacturing companies.

This approach provides documented evidence in support of sensible labelling statements, and more importantly, is the precursor to developing a consistent approach to allergen management, and improving ingredient sourcing and handling.

The outcome of this process is to derive a hazard rating for the various ingredients used, after which one can determine whether appropriate control measures are currently in place or can be implemented to minimise the allergen risks.

The effectiveness of these control measures must also be scientifically evaluated before they are relied on.

Even where the control measures are known to be effective, it should be recognised that ongoing verification will still be needed. Routine, daily monitoring of the effectiveness of control measures, using simple to apply, 'real time' tests will help to ensure they are working well, and will enable corrective action to be taken in a timely manner. These checks might include visual inspections or other rapid assessment measures, such as testing of the finished products or swabs of equipment after cleaning.

It is worth remembering though that the laboratory testing must be validated. Off-the-shelf test kits for a given allergen must be proven to be effective for a specific product or sample in order for the results to have any merit. Our laboratories have rescued several customers from initiating recalls based on 'positive' results for contamination that we were able to show were false positives arising from the use of non-validated testing methods.

Conclusion

Many food companies have struggled with their response to allergen labelling. Hence many products are packaged with confusing and conflicting messages, and many have been the subject of costly recalls due to the mis-labelling, mis-packing or mis-application of testing methods. Clearly, the industry is in need of an improved approach to allergen management.

Risk assessment offers a reliable way of handling allergenic ingredients, and of labelling products sensibly where risks of cross contamination do exist, but can be shown to be minimal and under control. ■