Metal in the mix

Consumer demand and retail pricing pressures have led to cost-cutting measures across food production lines, comprising quality and safety. For the ready meal industry, this presents a major issue when it comes to metal contaminates.

Food manufacturers are beset from all sides by challenges. If it's not the increasing demand from consumers to contend with, then it's retail pricing pressures as supermarkets wage war with one another to offer the lowest price. All of this has coalesced to form a perfect storm, leading to cost-cutting measures across food and drink production lines.

A recent survey undertaken by insurance broker Lockton found that this cost-cutting is having a direct impact on product quality which, in turn, has sparked an upsurge in recalls. Indeed, participants suggest that retail pricing pressures, in particular, comprise safety standards.

As one of the fastest growing food sector segments, the ready meals market – forecast to reach $146,247 million by 2023 – is in danger from these cost-cutting measures, especially when it comes to the presence of metal contaminates.

Phil Brown, Managing Director of Fortress Technology Europe, argues that having one metal detector on a ready meal processing line is, obviously, better than none. However, while this unit may demonstrate best practice and adhere to numerous quality assurances and regulatory guidelines, a lack of understanding about prevalent metal risks might be, and where they could be introduced, means that a factory could be missing a trick.

Ninety-eight per cent of UK manufacturers surveyed by the aforementioned Lockton Food and Beverage Report agreed that continued price pressures would have an effect on retail shelves. Forty-two per cent of those believed that cost-cutting was to blame for the increase in the number of recalls the sector is currently experiencing. Mr Brown has thrown his hat in the ring, agreeing that short-term

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thrift with product inspection equipment may have an incendiary effect on food safety, putting a business and brand reputation in jeopardy. In a market place that grows increasingly more competitive, this can well spell the end for a producer.

Food recalls spearheaded by the Food Standards Agency have doubled over the last five years. In particular, there has been a sharp rise in those with physical contaminates – such as metal. The survey found that twenty-two per cent of these food and drink recalls over the past six years were linked to choking hazards.

Experts predict that investments by food factories in inspection systems will continue to fall. Mr Brown advises that risk professionals should constantly revisit inspection protocols and hypothetical contamination scenarios in order to flush out threats. This offers, in part, an antidote to the current climate where one in ten food and beverage manufacturers are using cheaper raw ingredients. Further, forty per cent agree that ingredient transparency and traceability are becoming harder to determine. It's only been five years since the infamous horse meat scandal shook the chilled, frozen and ready meal sector, though many of the same issues still plague the industry today.

With all this in mind, in can be daunting for food manufacturers looking to maintain robust safety and quality practices across their production line. However, in lieu of direct investment in inspection services, there are other ways of strengthening standards. Mr Brown suggests sourcing from sub-contractors and changing suppliers, both of which provide manufacturers the ideal opportunity to reconsider and review food safety inspections.

The issue is especially prevalent for makers of convenience meals; given these products typically have more production processes than any other food item. This means that there more opportunities for metal to be introduced. For an example, Mr Brown

AIS X-Ray detects minuscule contaminants

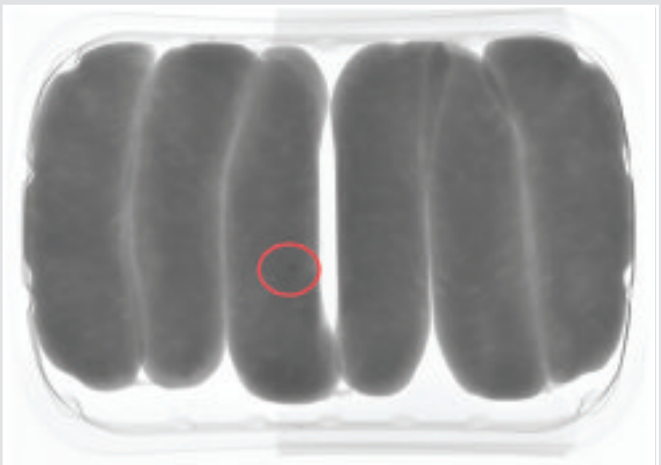
Advanced Inspection Services (AIS) has launched the AIS X-Ray Micron Scan, an ultra-high-resolution sensor x-ray system for preventing product recalls.

Designed to operate offline, the system detects a large range of foreign bodies – such as metal, glass, stone, calcified bone fragments and specific rubbers and plastics, e.g. PTFE.

High resolution sensors find very small contaminants – including metal contaminants as low as 0.2mm and glass at 1.0mm – and are less sensitive to the orientation and location of the foreign body within products. Advanced contaminant detection prior to product release and post recall will ensure quality assurance and safeguard brand reputations.

If an on-site solution is required, the new slightly lower resolution AIS X-Ray Ultra Scan can be installed within a manufacturing facility at a near-line location. Once the point of food safety weakness has been identified, it is then rectified thereby reducing the likelihood of product recalls and customer complaints.

For more information, visit www.aisxray.co.uk.

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turns to the humble meat pie. As well as the requisite pastry topping and casings, a pie may contain multiple vegetables alongside cooked meat and a sauce or gravy. Each ingredient and production process is, in its own right, another arena in which metal and other contaminates can be introduced.

Each step is critical and Mr Brown says that, when assessing risks, it's important to examine all of the processing steps, as metal could be introduced in any number of the processes where cutting blades or grinders are being used. After all, it only takes a small sliver of metal to be found by a consumer to spark a costly product recall and/or lengthy legal action.

"With an average ready meal, there can be more than eight production steps between sourcing ingredients to packing, and more than five different product components each requiring, cleaning, peeling and inspection, slicing, cooking, quality inspection, flavouring and finally weighing and packing. If manufacturers are choosing cheaper raw ingredients, the risk to reputation could be amplified," says Mr Brown.

"Although most external companies supplying ingredients are extremely diligent, the more extensive a supply chain and the further inspection equipment is pushed up the line-up, the greater the risks."

In terms of the end result, metal should be thought of no differently as any other contaminate. They can all lead to legal action, result in recalls and harm consumers. For that reason, it's no surprise that Mr Brown likens metal contaminates to a virus. Taking the analogy a step further, he advised that catching it in its largest form – for example, in a single potato – is the ideal.

"Doing this means you eliminate it at the cheapest part of the process. But also you catch it before the metal is chopped up and dispersed into multiple products," he says.

In order to catch metal contaminates as early as possible during production, manufacturers often install metal detection equipment at every stage of the production line. And it's easy to see why. Pushing inspection solely to the end of the line means that any contaminate will be caught at the most expensive part of the production process. Here, an entire batch or product – for example, 500 ready meals – could potentially be contaminated by metal fragments. As Mr Brown says, at this point, the cost to a business and brand reputation is considerably higher.

As we've already explored, meeting consumer demand and pricing pressures from the retail sector are both partly to blame for comprised product quality and safety. But, as Mr Brown cautions, complacency can also be a major issue. Zero recalls in the past doesn't mean you're immune to future threats.

"Quality assurance often runs deeper than the obvious," he says. "Rather than considering the 'if' it can be prudent to think instead about the 'when'. To mitigate future contaminant risks means you are not looking for patterns but future potential holes in the security chain. From a practical perspective, food processing inspection risks should be reviewed every 12 months as part of a defined HACCP assessment. However you may want to do it more frequently if a process is changing, for example if switching packaging from a plastic poly wrap to a cardboard outer."

The pressures faced by food and beverage makers are only predicted to intensify rather than ease up. So it's important for manufacturers to get to grips with their inspection equipment and strategy in order to preserve consumer trust, health and sidestep any product recalls.