

FOREIGN MATTERS

Guarding against foreign object injuries and product recalls becomes increasingly important for meat processors.

Food adulteration due to the presence of foreign objects can pose a safety risk to consumers. But it's also a business risk to processors. Recent recalls involving several major meat and poultry processing firms underscore the risk:

- A major meat processor recalled over 225,000 pounds of canned pork and chicken products in May 2018 after consumers complained of metal fragments.
- In April, another meat processor recalled nearly 120,000 pounds of beef patties based on consumer reports of "thin blue plastic pieces."
- Also in April, 135,000 lbs. of beef steak were recalled because of bone fragments, including three reports of "oral injury."
- A leading poultry processor recalled over 101,000 pounds of chicken patties in February 2018 after consumers reported finding bits of rubber in them.

In the case of these recalls the foreign objects included metal fragments, bone fragments and plastic pieces. But other items that cause food adulteration include glass fragments, wood splinters, gravel and more.

A Growing Problem

Interestingly, product recalls in recent years – which can involve thousands of individual items carried out on a national scale – don't signal a deterioration in the quality of the food supply system. Rather, the growing number of recalls stems from heightened consumer awareness, stricter enforcement and greater vigilance on the part of the meat industry players in the wake of the FDA's 2011 Food Safety Modernization Act (FSMA).

Indeed, meat processors are now employing an expanding array of both conventional and newer technologies to detect and remove foreign objects from products, such as inline metal detectors and X-ray inspection systems.

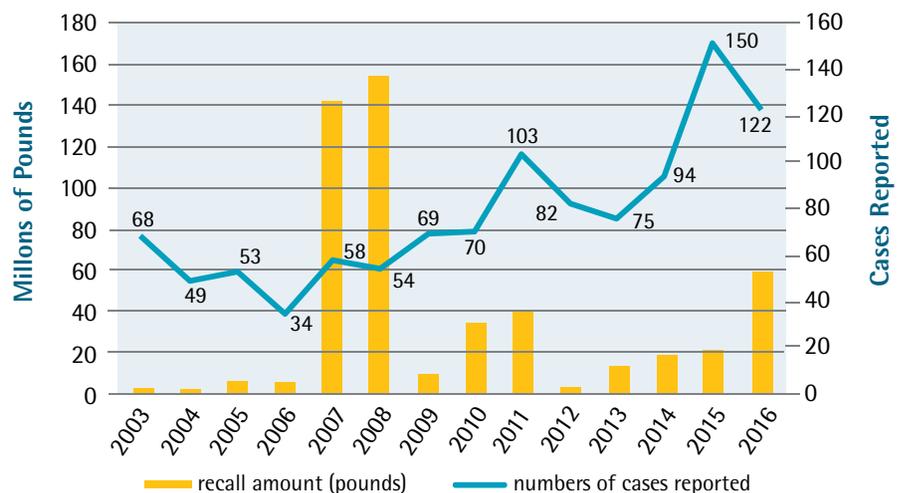
According to the USDA, approximately 25% of all food-related complaints it

receives in a given year involve the presence of a visible foreign contaminant – and a significant portion of these complaints reportedly involve an associated injury or illness. Sharp foreign objects are a particular concern in that they can cause physical injury to a person's teeth, tongue or jaw, not to mention the pharynx or esophagus due to choking.

Beyond the cost of product recalls – in bad publicity as well as in hard dollars – injuries can result in litigation against all the companies associated with the product. So, in the case of a customer who suffered an injury while eating a meal at a restaurant or fast food outlet, both the foodservice establishment and the food processor that supplied the product are at risk of being sued.

In addition to the federal government, many states have strengthened their statutes

Number of U.S. Recall Cases and Total Amount in Pounds: 2003–2016



Note: The total amount does not include recalls where the recall amounts were undetermined.
Source: Ohio State University, 2017.



regarding “deleterious substances” in food products which may render them injurious to health – and they also apply to the undesirable parts of the raw food product which are naturally occurring and normally associated with the particular type of meat, poultry or seafood product being consumed.

In other words, it isn't sufficient to claim that the object was a bone or some other natural substance expected to be associated with the food being consumed. Instead, the more accepted standard today is known as the “consumer reasonable expectations” test. Under this standard, whether the injurious object was “natural” to the product is considered a *relevant* factor, but if the consumer could reasonably expect to encounter it is the *stronger* consideration. Thus, encountering a bone fragment in boneless chicken is typically grounds for litigation whereas it would be much less likely with a bone-in chicken product.

Responding with Technology and Effective Actions

One way or the other, companies wish to avoid the cost of litigation as much as they do paying out damages for medical expenses, loss of income, pain-and-suffering and the like. For this reason, the food industry is actually seeing a greater number of voluntary recalls as companies seek to get out in front of any problems.



Anritsu pipeline model for pumpable products

But other, more preventive steps promise even greater savings – and less upheaval – for companies. It's in the type of foreign object detection equipment they utilize.

According to the USDA in its comprehensive report on Hazard Analysis Verification (HAV), recommended tasks to mitigate physical contamination risks in mixing/grinding processing systems include:

- Use the most sensitive technique available.
- Monitoring equipment should be sensitive enough to detect contamination as small as 1/32" (0.8mm).
- A visible inspection is prudent in addition to metal detection or X-ray machines.
- Hard or sharp objects 7-22mm in size represent a potential physical hazard, but objects <7mm could also be a potential physical hazard for certain populations such as children.

Considering the high-yield volumes that many meat, chicken and other poultry processors are producing, the more that foreign object detection can be mechanized without sacrificing safety and quality control, the better. Only some X-ray detection equipment in the market today is able to deliver on that score. One such manufacturer – Anritsu Invisis – has made the commitment to doing so across its entire product line, which includes detection equipment for:

- Raw unpackaged products
- Pumpable products like ground chicken, pork and beef
- Cased products
- Packaged products

These provide automatic detection of bone, metal, wire, glass, stone and other foreign objects, utilizing powerful technology to deliver accurate, high-speed readings via the application of two separate X-ray energy signals. The dual X-ray signals allow these systems to distinguish clearly between the product being processed and the foreign objects. The result is a higher

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Anritsu DRWZ model for raw unpackaged products

rate – and more accurate detection – of low-density items.

Equipped with this capability, meat processors can successfully take their QC and HACCP programs well-beyond just metal detection by targeting the elimination of other foreign matter – organic or non-organic – in a high-speed production environment.



Anritsu KD7447 model for cased products

Contact the technical specialists at Gainco for more information on selecting the most effective X-ray detection equipment for improving product quality while guarding against costly product recalls. Visit gainco.com/inspection or call toll-free 877-869-7410.

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