# Incidents and Resilience Annual Report 2022/23

FSA 23-09-07 - This paper provides an overview of the work undertaken by the Incidents and Resilience Unit (IRU) to carry out food and feed incident response/prevention and outlines the challenges faced in 2022/23.

## 1. Summary

1.1 The paper provides an overview of the work undertaken by the Incidents and Resilience Unit (IRU) to carry out food and feed incident response/prevention and outlines the challenges faced in 2022/23. These include the increasing demands of foodborne outbreak management, the continuing need to adapt after our exit from the EU and the impact of food chain disruption such as that caused by the Ukraine crisis.

1.2 The Board is asked to:

**Consider and comment on:**

- the work of IRU since the 2021/22 Annual update to the Board in September 2022 to protect consumers.
- the emergent scale of incidents and outbreaks including what it means for consumers and wider parties involved in protection activities, and.
- the work to develop our response to large scale crises and capability development across the FSA.

**Discuss and support:**

- our incidents and outbreak management response, and
- the development of our approach to incident prevention.

## 2. Introduction

2.1 This paper provides the annual report to the Board on the activities of the FSA's Incidents and Resilience Unit in 2022/23, including incident response and supporting functions.

2.2 The paper covers:

- Background and Context
- Incidents and Outbreaks during 2022/23
- Incident Signals
- Incident Prevention
- Preparedness and Resilience
- Conclusions

## 3. Evidence and Discussion

3.1 IRU's role is linked to the FSA's mission to keep food safe and is embedded in legislation.

3.2 Incidents teams are located in England, Wales, and Northern Ireland (NI), and with Food Standards Scotland's (FSS) Scottish Food Crime & Incidents Unit (SFCIU), they coordinate the response to food and feed (footnote 1) incidents and foodborne outbreaks, ensuring products not in compliance with safety and standards legislation are removed from the UK market.

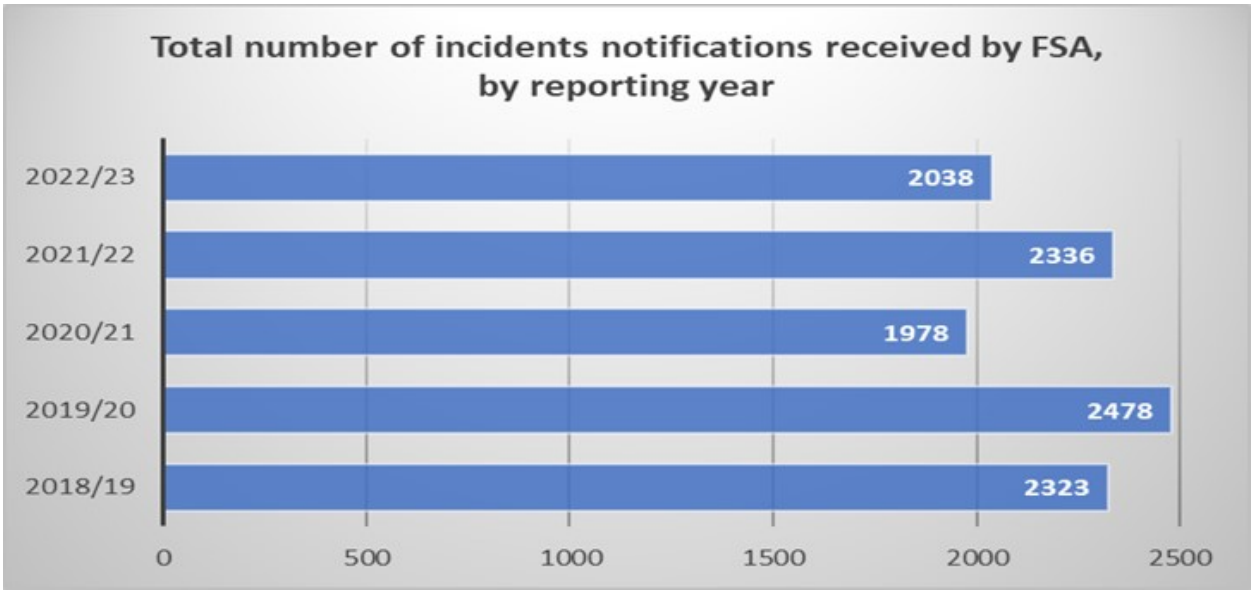
3.3 Incidents that are reported may also involve food fraud or crime. Where this is suspected, food crime colleagues (footnote 2) are engaged and there is daily collaboration between Incidents and food crime teams.

3.4 IRU is a core operational FSA team with interest and input into multiple complex policies (for example the Border Target Operating Model) yet is not the business "owner" of the problem or all elements of the solution.

## Incidents and Outbreaks during 2022/23

3.5 The FSA was notified of 2,038 food and feed safety incidents in England, Northern Ireland, and Wales during 2022/23. This represents a 13% decrease when compared to 2021/22 (figure 1). Fluctuation in incident numbers year on year is common, and subject to many factors such as new regulations coming into force, or a persistent large-scale issue (for example, ethylene oxide in 2020-2021). The data will be further analysed in 2023/24 to consider underlying trends.

**Figure 1: Total number of incident notifications received by the FSA, by reporting year.**




3.6 The top four hazard types for incidents notified to the FSA in 2022/23 were: pathogenic micro-organisms (572 being 28% of total), allergens (314 being 15% of total), poor or insufficient controls (145 being 7% of total) and residues of veterinary medicinal products (144 being 7% of total) as in Annex A
Figure 1.

3.7 Of this total number, incidents associated with pathogenic micro-organisms make up the highest proportion at 28%; a 2% increase on the previous year. *Salmonella* continues to account for the most microbiological incidents and the most common outbreaks that require an FSA operational response.

3.8 There has been an increase in Avian Influenza (AI) incidents recorded in England during 2022/23 compared to the previous year (89 in 2021/22 and 202 in 2022/23). All notifications are recorded as incidents due to the FSA role in contributing to the multi-agency disease outbreak

responses (led by Defra), tracing meat from restricted zones and ensuring its removal from the supply chain.

3.9 Levels of allergen incidents remain broadly consistent with previous years; 314 in 2022/23 compared to 320 in 2021/22 and 350 in 2019/20. In 2020/21 only 180 allergen incidents were recorded which is attributed to the decline in eating out and the reduction in retail product lines, during the Covid pandemic.

3.10 Numbers of incidents involving poor and insufficient controls (footnote 3) (145) are down from 296 associated incidents in 2021/22 but remain within the top 4 hazards in the overall total number of incidents. The increase in 2021/22, explained in last year's report, was the result of a non-routine incident linked to imports transiting through EU and avoiding UK border checks. Before 2021/22 numbers were more in line with this year's figure (95 in 2020/21 and 165 in 2019/20).

3.11 Incidents involving residues of veterinary medicinal products (144) show a 73% increase from the 83 reported in 2021/22. We are exploring with the Veterinary Medicines Directorate (VMD) and Animal and Plant Health Agency (APHA) the reasons for this increase.

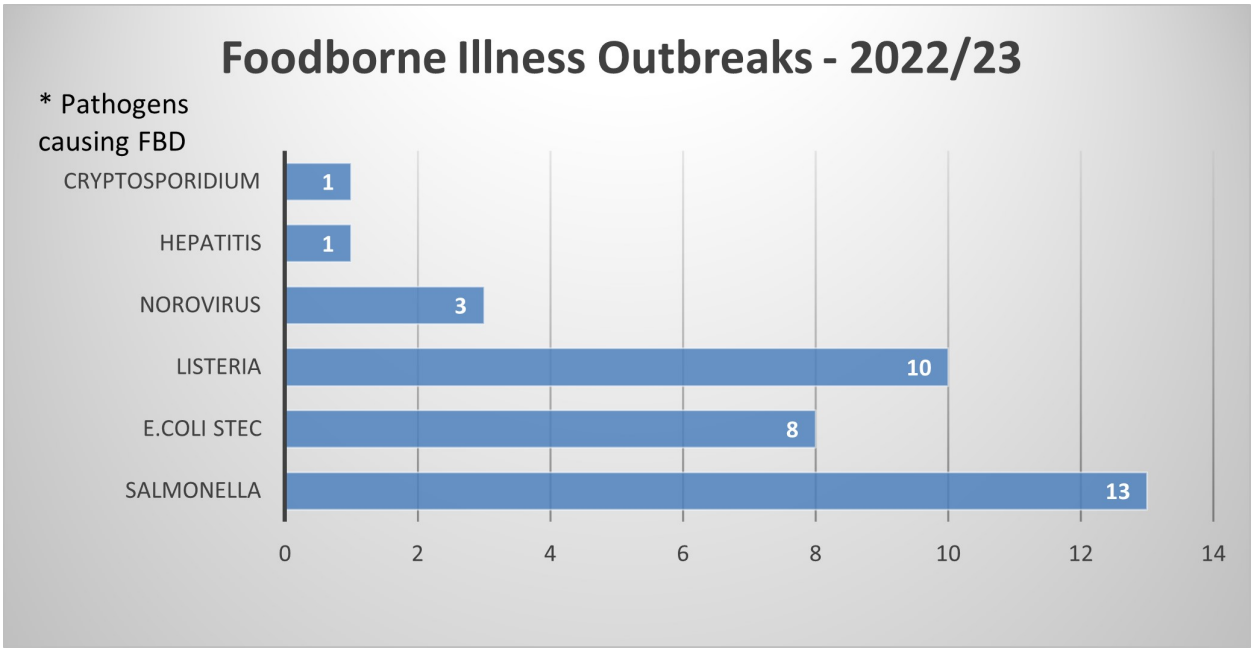
3.12 To further understand data captured and the analysis required during an incident, IRU will develop and focus our approach to data in 2023/24. This will include the revision of how we capture, use, and publish data to feed insights and prevention work, and how we measure success, our performance, and utilise resources.

## Outbreaks and our approach

3.13 The FSA protects consumers by working closely with the lead public health authorities, local authorities, and others to coordinate the response to foodborne disease incidents and outbreaks (footnote 4). When foodborne disease occurs and is sufficiently serious for the FSA to be notified, our role is to identify the foodborne source through investigation and remove affected products from the food chain through operational response, to prevent further illness.

3.14 Included in the microbiological incidents (2022/23) were 36 outbreaks of foodborne disease, which were managed in addition to outbreaks carried over from the previous reporting year. See the below Figure 2. The figure shows *Salmonella* to be the largest contributor to outbreaks managed by the FSA and corresponding data (not shown) from the UK public health agencies shows that reported cases of *Salmonella spp.* infections in the UK increased during 2022 but remain below pre-pandemic levels.

**Figure 2 *these were the foodborne outbreaks notified to the FSA that required an operational response by the FSA, not the total number of foodborne disease, illness, or outbreak occurrences.**




3.15 Analysis suggests no marked changes in the prevalence of foodborne disease during 2022/23, and the number of outbreaks that required an FSA coordinated response remained overall stable. However, outbreaks investigated by FSA, are dependent on the output of risk-based prioritisation, using the Whole Genome Sequencing (WGS) (footnote 5) which takes account of severity and FSA available resource against other high priority incidents. There is, therefore, an ongoing need for the FSA to make risk-based decisions and manage resources to ensure sufficient capacity to protect consumers during any higher priority periods.

3.16 The demands of higher priority outbreaks on FSA resource are increasing as WGS is used as a forensic tool for detecting links common links, coupled with increased and improved epidemiological information means FSA food chain investigations to trace affected foods through the food chain (often complex national and international food chains tiers), to ensure correct measures are taken to minimise public health impact is an increasing burden.

3.17 During 2022/23 we enhanced capability across the 3 FSA nations (England, Wales, and Northern Ireland), FSS and the respective public health authorities through the development and delivery of bespoke outbreak training in July 2022. New standard operating procedures have been developed and implemented this year.

3.18 Our business plan in 2023/24 for outbreak management includes:

- review the FSA operational guidance for Local Authorities on how to manage foodborne outbreaks (no update since 2009), and therefore pre-dates WGS and data modernisation.
- supporting reviews of communicable disease outbreak and operational response guidance planned by public health authorities in England, Wales, and Scotland. These are expected to be substantial consultative reviews due to being the first following the introduction of WGS.
- maximising the use of science, policy and cross Government leads including DHSC, Defra and UKHSA, ensuring alignment with internal FSA response systems and are fit for purpose.

## Incident Signals

3.19 The Receipt and Management (RAM) team monitors signals. Signals being any possible risks to the UK food chain identified by using predictive surveillance systems such as the Signal Prioritisation Dashboard, which uses AI technology to scan key international open data sources to identify relevant information, download, interpret and configure the information into food safety

risks to improve the situational awareness of risk within the food chain with an aim of incident detection and prevention.

3.20 During 2022/23, the team processed 11,421 signals which resulted in 38 new incident/product referrals (passing on for action/removal from the market), 104 referrals (passing on information for investigation) to LAs and other authorities to investigate and 841 signals were referred 'for information' to other areas of the FSA. The team identified 12 signals of emerging or ongoing risks where trends in intelligence indicate the need for further investigation to determine and manage UK risk. The investigation of these signals includes engagement with stakeholders, including industry, to validate risks. The number of signals referred as incident/product referrals (passing on for action) increased by 40% since last year. Annex C shows examples of the types of signals processed and affected foods removed from the market.

## Incident Prevention

3.21 As a result of leaving the EU and the need to be self-sufficient in identifying potential risks to the UK food chain, we continue to develop processes which allow us to respond to the risks raised and focus on proactive, coordinated activities to prevent incidents. Difficulties experienced in managing issues identified by intel and signals processing, (as incident prevention not management) has been due the need for input from many to address concerns raised and the lack of an accepted coordination process across teams. An example of such an issue (included in Annex C) is Listeria in Enoki mushrooms from Asia, which was identified as a risk in April 2021, and where although work was carried out, efforts to get full recognition of the risk and measures in place has taken 2 years. IRU is working with other teams on systems which allow better co-ordination in managing these types of issue and a senior level escalation sub-group which makes timely decisions on resource commitment and risk prioritisation has recently been set up to help.

3.22 The importance of stakeholder engagement in understanding food chain concerns since leaving the EU continues and reflects the strong interdependencies of those responsible for food safety. The IRU chairs the Food Industry Liaison Group, comprising the main Trade Associations, which meets every 4-6 weeks to exchange information on incidents, food safety matters and emerging risks. Engagement also takes place with individual businesses when dealing with issues or incidents dependent on the nature of their business (for example with the slushed drinks manufacturers when discussing issues relating to use of glycerol (footnote 6)).

3.23 The team continues to engage with the International Food Safety Authority Network (INFOSAN) and other countries via INFOSAN. The critical importance of INFOSAN to the UK is demonstrated in two of the case studies in Annex B, with INFOSAN leading the international co-ordination needed to resolve the issues. The FSA secondment to INFOSAN ended 31 August 23 due to budgetary constraints however due to the success of the secondment, links and engagement continues.

3.24 Other international engagement also includes weekly and quarterly engagement with the Republic of Ireland on incidents and incidents matters, which gives insights into EU working; and engagement with the United States to increase collaboration on outbreak management.

3.25 Stakeholder engagement was key to the handling of the non-routine incident to manage the consequences of extensive and sudden food chain disruptions (particularly sunflower supplies) caused by Russia's invasion of Ukraine. There was considerable concern across industry in terms of their ability to maintain supply chains with labelling compliant goods for consumers. The incident required large efforts to get agreement across all parties (regulators and industry) on solutions which ensured we reached a proportionate solution, and which allowed Local Authorities to take a pragmatic approach on industry options for informing consumers of short notice ingredient changes. This matter was the subject of FSA Board discussions in 2022.

3.26 As part of efforts to prevent incidents by learning from the common causes, businesses involved in an incident shared 325 Root Cause Analyses (RCA) in 2022/23 as part of the incident management process. A breakdown of the findings of these RCAs is shown in Annex D - Annual Summary of Root Cause Analysis (RCA) notifications received: 2022-23. To develop further the use of RCA a working group with industry members has been set up.

3.27 In March 2023 the final report for the Efficacy of Withdrawals and Recalls evaluation (footnote 7) (aimed at further refining the recalls process) was published. This concluded that the initial programme was well-managed across a range of stakeholders and had successfully met the planned outcomes. The report recommended the development of resources tailored for smaller businesses, improved guidance and communication mechanisms to help businesses raise consumer awareness and enhancing support for food businesses to make food safer through the use, reporting and sharing of RCA learnings. A prioritisation exercise to consider implementation of the recommendations is being undertaken, with the aim of improving consumer and business understanding of the recalls process. Ongoing work in this area aligns with World Health Organization (WHO) guidelines on recalls, which states the need for frequent review of processes to ensure they remain effective and reflect market changes in how consumers purchase food & access related information.

### Preparedness and Resilience

3.28 During 2022/2023 the Resilience Team delivered 21 emergency preparedness exercises and training activities of varying complexity and scope. These included cross-departmental and statutory exercises, providing the FSA with an opportunity to walk through, validate and further improve our procedures at a tactical level. Learning included the requirement in certain areas to continue to build strong working relationships with colleagues across government, as well as simplify information contained within Emergency Plans. In addition, learning from the exercises and training undertaken has contributed towards strengthening the FSA's business continuity capacity, capability, and preparedness.

3.29 Learning from both exercises and live incidents has resulted in updates to the Non-Routine Incident Management Plan and associated Standard Operating Procedures (SOPS) and internal instructions for emergency response activity.

3.30 Following the FSA's response to Non-Routine Incidents, particularly the food safety impacts arising from Russia's invasion of Ukraine, the FSA commissioned a Risk and Crisis Management (RCM) review to better understand its capability and maturity in strategic risk and crisis management. The report recommended an eleven-point action plan to enhance our approach to emergency management. It also acknowledged that the FSA is too small to create and sustain a standing emergency management team, and therefore it recommended that emergency management should be considered a wider concern. A Programme Board has been established to take forward the recommendations and remedial actions identified in the report and the FSA Board has had an opportunity to review the findings of the report and to contribute to discussions about our incident response function, especially in the context of a major incident June 2022 Belfast).

## 4. Conclusions

4.1 The report has described the growing complexity of incident management. IRU has in recent years had to adapt from being a notification and response function to having greater ability to predict risks and to be agile in responding to these risks. Adaptations include monitoring impacts of food chain disruption; use of AI to identify risks; meeting demands of WGS to identify foodborne outbreaks; greater focus of finite resource; tracking causes of incidents; and increasing use and benefits of prevention.

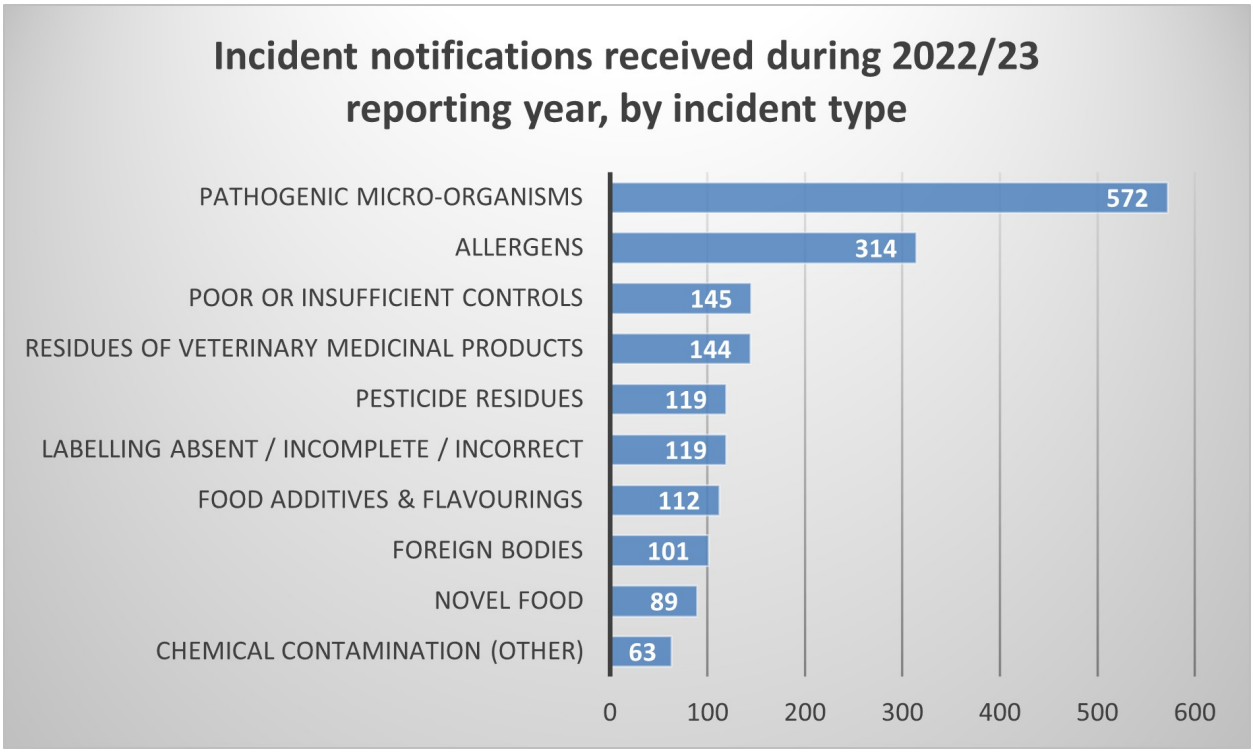
4.2 The increased adaptability in approach is imperative to maintain levels of consumer protection. Business plans in 2023/2023 include:

- increasing use of incidents data to drive understanding of context, categorisation, and longevity of responses both internally and externally.
- the ability to prioritise, escalate (outside of a non-routine incident) and direct resource to areas of emerging need and demand.
- development of measures for our effectiveness, for example meaningful performance indicators.
- enhancing our capability and effectiveness to respond to Non-Routine incidents and other crises following from the RCM review.
- continuing development of the principles of prevention across the FSA

# Annex A - Incidents and Outbreaks during 2022/23

The trends for notifications by types of incidents or hazard (see Annex A Figure 1) are discussed in the main body of the report.

**Figure 1: Top-ten incident notification received during 2022/23 reporting year, by incident type.**

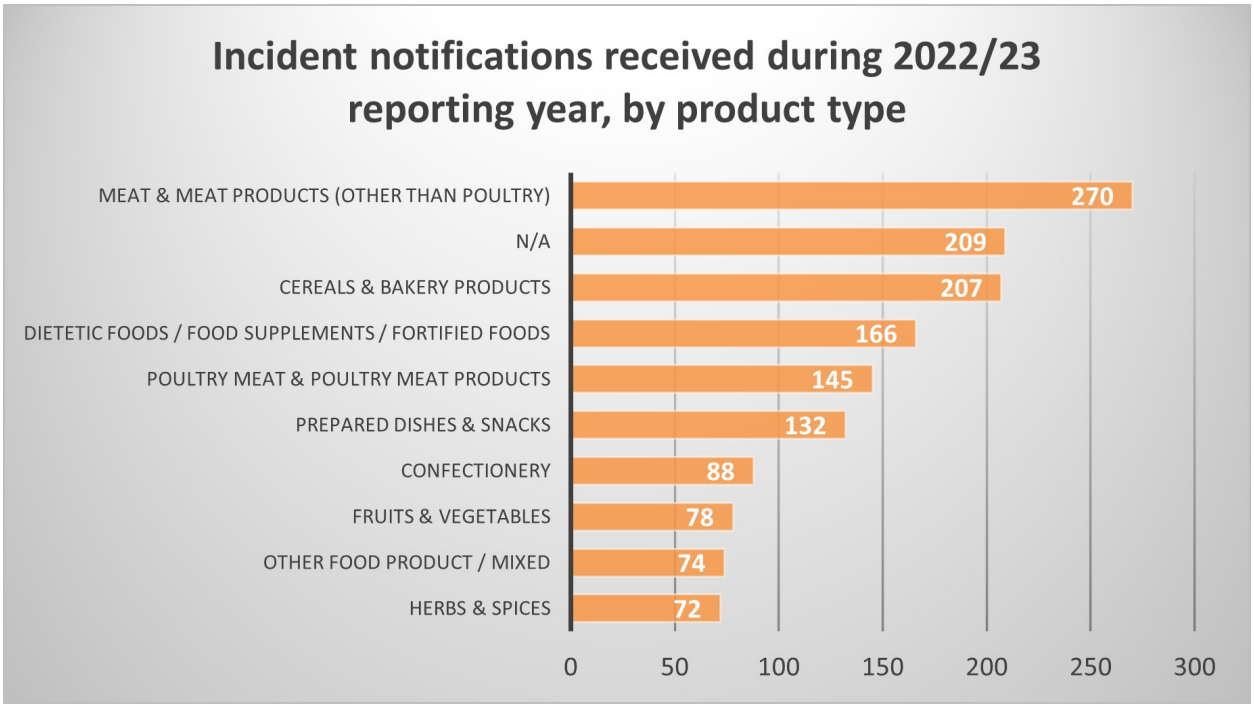



In terms of the product types associated with the incidents logged by FSA (see Annex A Figure 2), meat and meat products (other than poultry) contributed the highest number of food incidents (270) in 2022/23 and remain the top product type since 2019, partly because they are one of the most frequently and rigorously tested food groups. Most of these incidents involved cases of residues being detected in veterinary medicine, microbiological contamination, and labelling or packaging errors.

This was followed by “N/A” which relates to incidents where there is no product type attributable. Examples of these are on-farm incidents relating to live animals and outbreaks where no source could be identified (209).

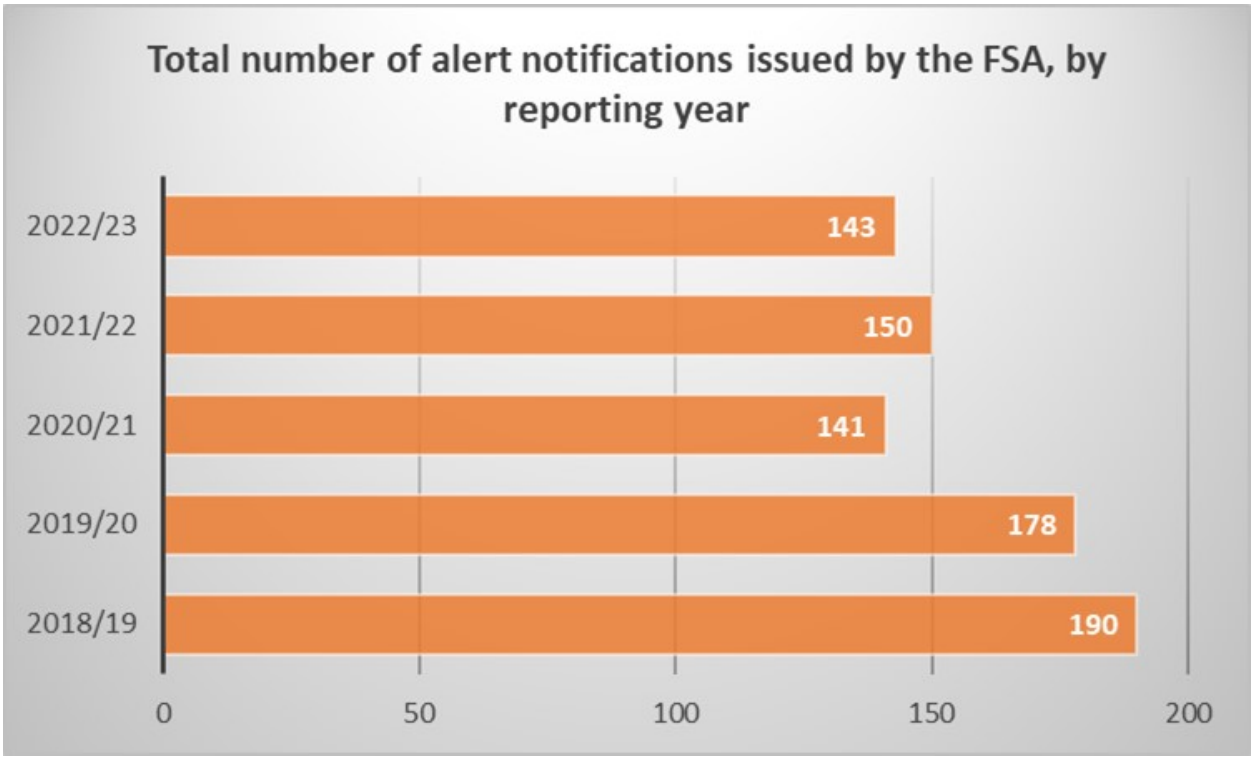
Cereals and bakery products (207) also contributed a high number of cases in 2022/23, with many of these incidents again relating to the presence of unauthorised ingredients, as well as issues with production, labelling and packaging. This was followed by dietetic foods, food supplements and fortified foods (166), largely driven by incidents of unauthorised ingredients in these products (figure 3).

**Figure 2: Top-ten Incident notifications received during 2022/23 reporting year, by product type.**




Annex A Figure 3 shows the number of alerts issued by the FSA decreased from 150 in 2021/22 to 143 in 2022/23. This represents a decrease of 5% and is below the average of 161 over the last 5 years. The total for 2022/23 is made up of 82 allergy alerts and 61 product recall information notices. There were no food alerts for action issued for 2022/23 (see Figure 4).

**Figure 3: Total number of alert notifications issued by the FSA, by reporting year.**




# Annex B - Case Studies

## Case Study: Listeria monocytogenes in cheese.

The management of an outbreak of Listeria monocytogenes in cheese shows how genomic science and food chain information is enhancing our ability to track, identify and respond to food safety concerns to maximise public health protection.

Following a report of a fatality and two hospitalisations, the FSA analysed food sampling data and food exposure information collected by public health and local authorities. Listeria monocytogenes was detected in two cheeses found at the home of the deceased, one with significantly higher levels than the other. Whole Genome Sequencing, (WGS), confirmed this to be the outbreak strain linked to the human cases. Investigations and WGS of further samples taken from one of the producers ruled out one of the cheeses as the source of the outbreak.

The FSA wrote to LAs across England and Wales to inform them of the outbreak, and advised additional vigilance for all businesses that may have been supplied, advocating additional deep cleans and hygiene for equipment, surfaces where cheeses may have been handled and personal hygiene. Additional sampling to verify efficacy of cleaning was also advised. Additionally, we engaged with the Specialist Cheesemakers Association (SCA), sharing issues of concern identified by the respective LA investigating the incident at respective businesses, securing the support of the SCA to assist the industry members to ensure production of safe food. This engagement continues, sharing lessons and findings, with a view to the SCAs guidance and advice to its members providing additional information where necessary to prevent similar re-occurrences.

Further samples were taken from the suspected producer and WGS confirmed that these samples matched the outbreak strain. This helped to isolate the source of the outbreak and led to four product recalls of affected products, and the FSA published Product Recall Information Notices (PRINs) to inform the consumers who had purchased these products. A news story was jointly published by FSA and UKHSA to inform and warn consumers, raising awareness of potential surface contamination, and to avoid these risks advocating good hygiene temperature control and observing shelf-life of cheese.

The food chain investigation and traceability exercise were informed by epidemiological information provided to the FSA which identified the supply chain route from the producer to the three human cases. FSA contacted local authorities for the recipient FBOs and encouraged follow up actions where further sampling confirmed presence of the outbreak strain, enabling remedial action to be taken and prevention of further illness.

Efforts continue to confirm the root cause.

## Case Study: Salmonella Typhimurium linked to Ferrero products

The UK was the first country to identify the outbreak source, take food safety action as a result and share our findings with the European Commission and over 50 countries to take similar actions. Following an assessment of the available evidence and meeting with the business on 1 April 2022, FSA published a product recall information notice (PRIN) on 2 April 2022 which has subsequently been updated three times alongside a series of product recalls. The Ferrero site in Belgium suspended operations on 8 April 2022 whilst further investigations continued.

As of 31 May 2022, there were 115 UK cases affecting mostly children under five (sample dates ranging from 21 December 2021 to 19 May 2022) and around 120 further cases identified in the EU. The UK worked closely with the International Food Safety Authorities Network (INFOSAN) Emergency contact point in Belgium, as well as Ferrero's UK office, to investigate the origin and root cause of the contamination. The production site was conditionally re-opened at the end of June 2022 by the Belgian authorities.

## Case Study: Higher than permitted levels of lead in products derived from human breast milk products.

The Food Standards Agency (FSA), Department of Health and Social Care (DHSC), UK Health Security Agency (UKHSA), NHS England and other Government Departments continue to work with Trading Standards to investigate an incident where higher levels of lead (than would be typically expected) were detected in products derived from human breast milk. The manufacturer sold a small number of human breast milk products, mostly as part of a clinical trial, to thirteen hospitals in England and Wales. Traceability investigations highlighted additional direct internet sales to approximately 30 recipients in the UK and 7 international countries.
On the advice of FSA and Trading Standards, the manufacturer conducted a precautionary product withdrawal and recall for the affected product. The FSA, informed by experts from other Government Departments, developed a food safety risk assessment which advised an extension of the product withdrawal and recall including all products manufactured. In December 2022, the manufacturer initiated a full product recall by contacting all the affected customers and also published a product recall notice on their company website.

The FSA, supported by Trading Standards, carried out an efficacy of recall exercise which provided the necessary assurance on the success of the product of withdrawal and recall. The FSA contacted all the international countries affected via the International Food Safety Authorities Network (INFOSAN) and all INFOSAN network members were informed of the incident on the closed community website in addition to this, for awareness. In January 2023, the FSA published a press release outlining the status of the investigation and action taken.

Following the product recall, the business voluntarily ceased the production and supply of their products. A root cause analysis investigation supported by Trading Standards is still ongoing. The FSA continue to support Trading Standards with the relevant food safety policy positions that the business will be required to consider and meet before resuming business operations. In addition to supporting Trading Standards, the FSA is contributing to a cross- Government lessons learnt incident work stream aimed at keeping the long-term actions/impact of this incident under review as well as streaming lining cross-Government incident management processes and

procedures.

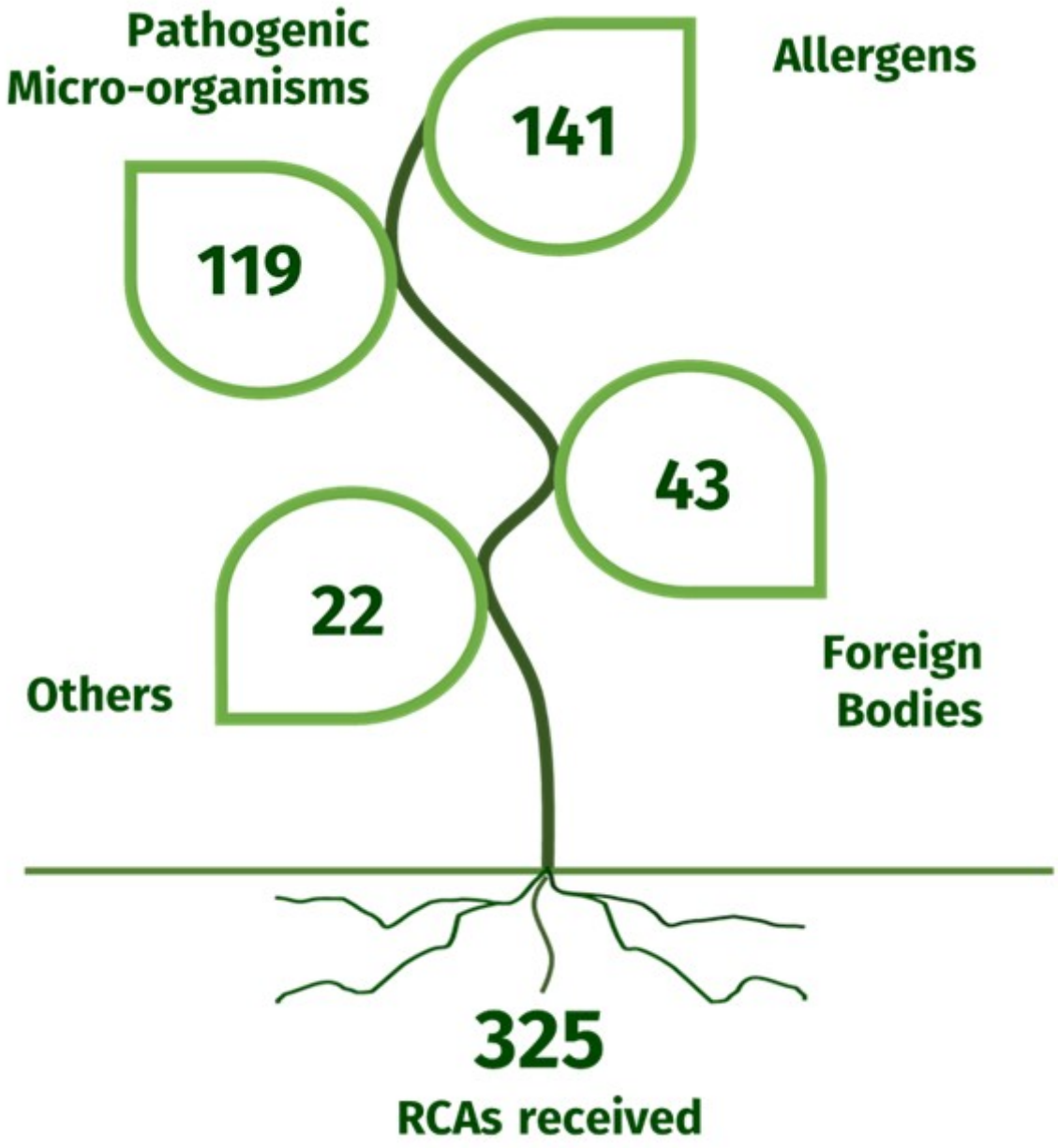
# Annex C - Examples of signals impacting the UK

| Example | Signal | Action |
|---|---|---|
| Example of early identification of incidents affecting the UK | A signal was detected from the Food Safety Authority of Ireland concerning the recall of batches of CBD and Hemp Oil products due to unsafe levels of Delta?9? tetrahydrocannabinol (THC). Signal validation identified that 2 of the products were available from several online retailers in the UK. | Further information regarding laboratory results were obtained from FSA Ireland and then forwarded to the Incidents team and an incident raised. THC levels were far above levels permitted in the UK. The LA for the company were contacted and a voluntary surrender of the products to the police was undertaken and verified. |
| Example of identification of trends / emerging issues | *Listeria* in enoki mushrooms from East and South-East Asia and an increase in illegal 'grey market' goods from the US on the UK market are two of the top risks raised by the team & investigations pursued with a view to preventing incidents.<br>Although the Listeria in enoki mushrooms featured in last year's report, the time involved managing new risks can be an extended process to fully understand all issues. | Both of these signals have been the subject of sampling, enforcement, and incident investigations. The issues have been raised with industry. Enoki mushrooms from China and Korea have been added the national monitoring plan for High-Risk Food of Non-Animal Origin due in 2024. The recent sampling for enoki shows a reduced rate of contamination as the industry becomes increasingly aware. Focused enforcement to prevent sale of illegal grey market from the US continues but the priority of the issue is still being defined. |
| Example of online marketplace referrals | A signal was received from the US regarding "Bindle Bottles recalled for possible lead contamination. A search on Amazon found multiple products available for sale in the UK. Signals Team consulted with Policy Teams to determine if this recall falls within the remit of the FSA, and were advised the Department for Business, Energy, and Industrial Strategy (BEIS) should consider. | The Signals team contacted BEIS who advised that as a result of our notification of this issue, they issued for the product to be removed from Amazon. Additionally, a recall notice was published by the Office for Product Safety and Standards (Link to Recall). |

# Annex D - Summary of Root Cause Analysis

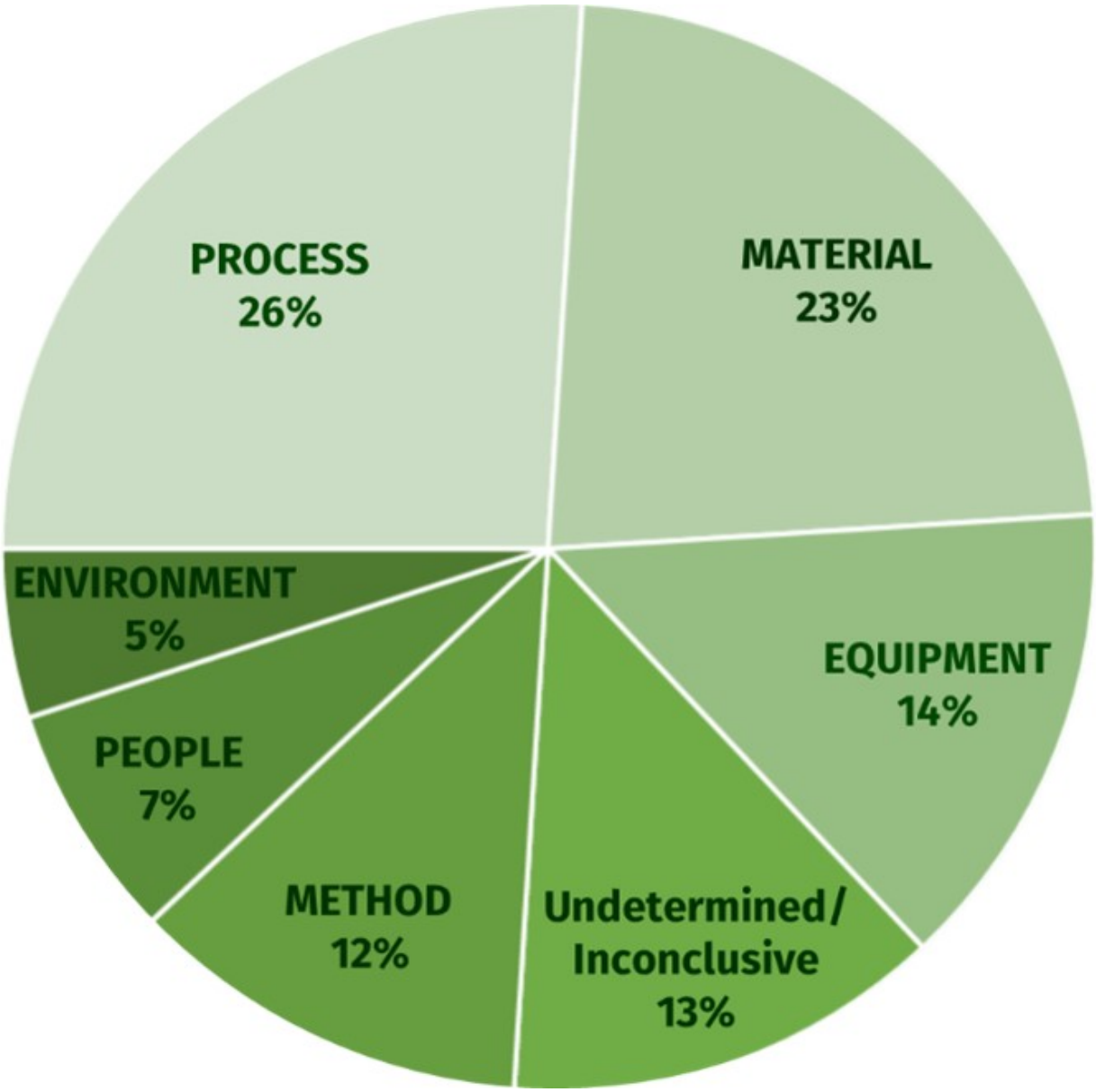
### Summary of Root Cause Analysis (RCA) notifications received: 2022-23

A total of 325 RCAs over the reporting period, constituting a 14% increase when compared to 2021/22 (286 received).

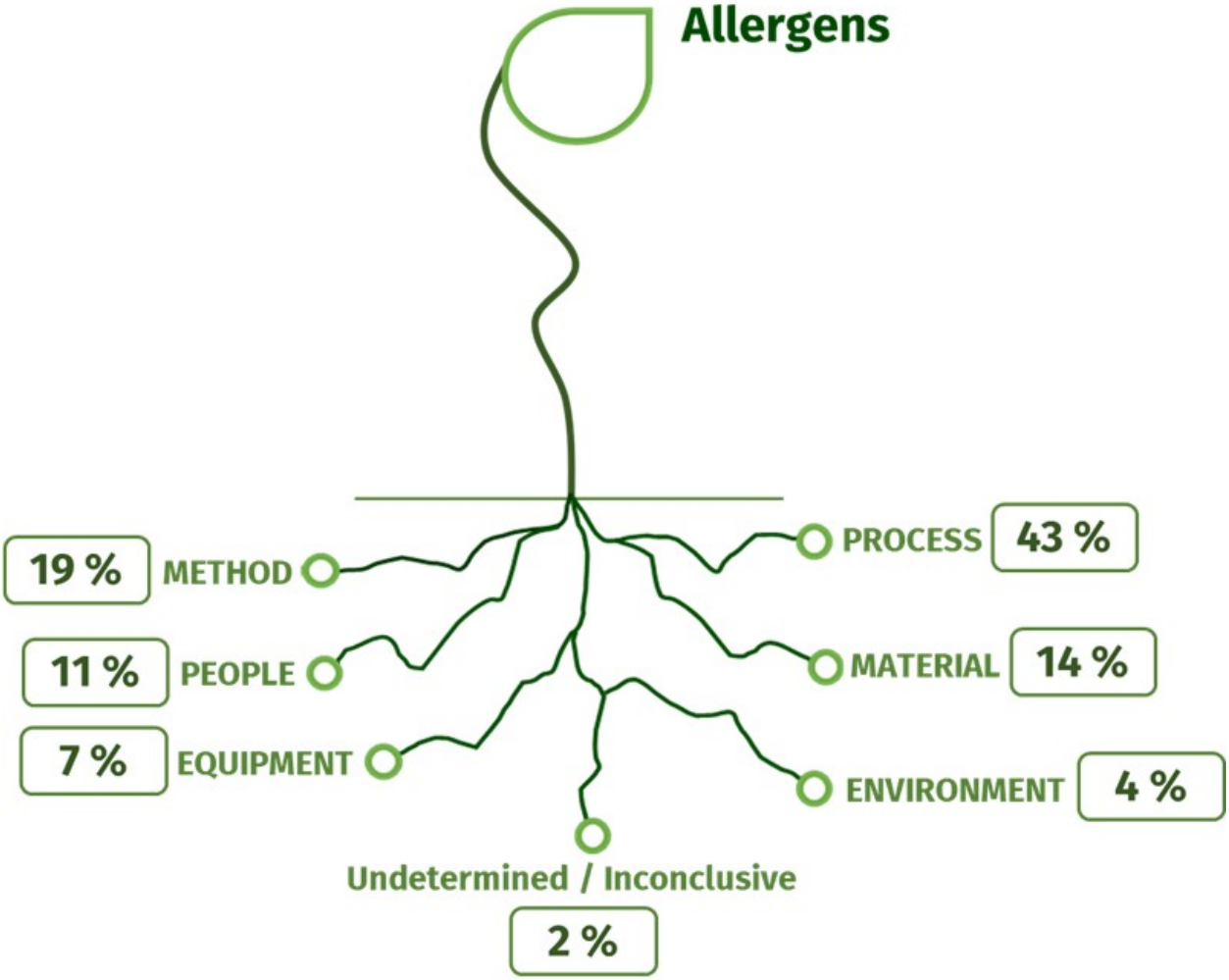



**Root Causes identified, by categorisation type.**

Almost half of the RCAs received (49%) identified the root cause as a 'process' or 'material' issue.




**Allergen incident RCAs received 2022 to 2023**



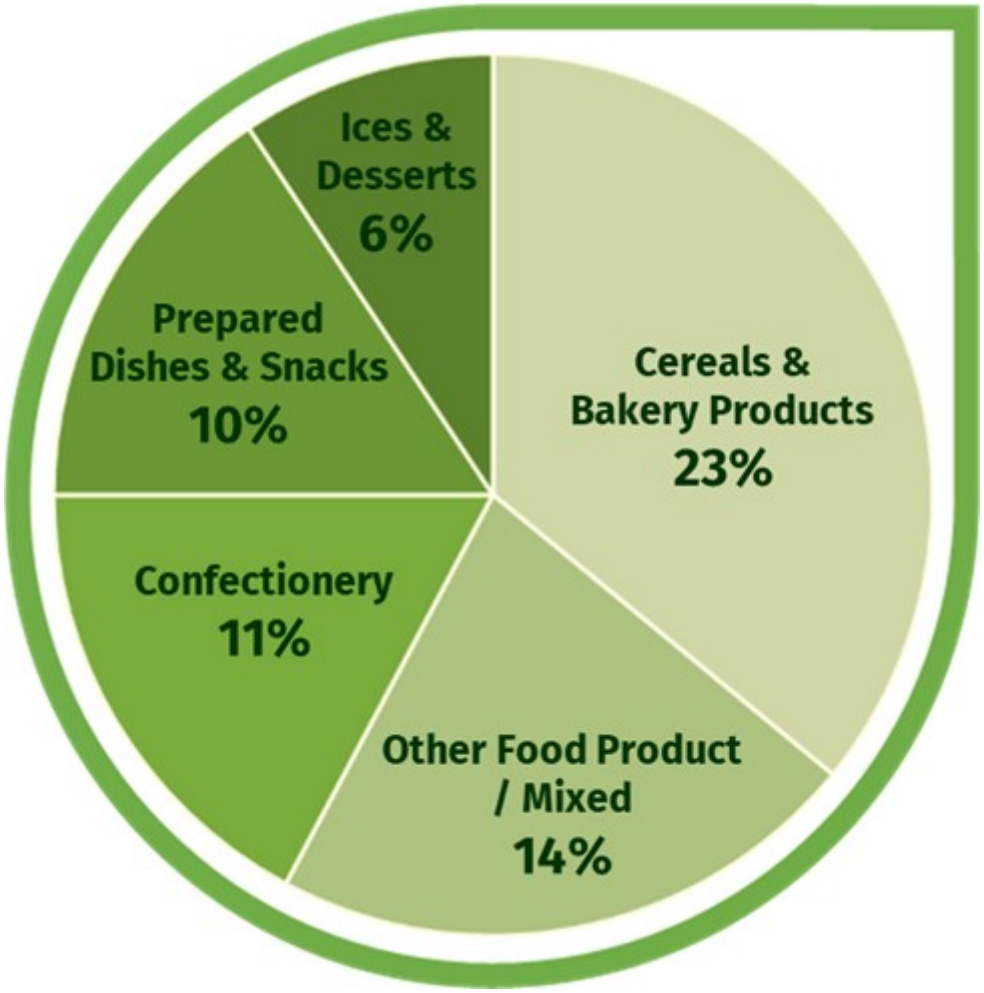

- 29% labelling verification checks absent/failure
- 8% quality control checks - inadequate/incomplete
- 8% labelling declaration - incorrect
- 7% ingredient specification - incorrect

**Major 'root cause' contributors**

‘Labelling verification checks’ (29%) is the major contributor, with a slight increase from 21% in 2021/22. ‘Labelling declaration’ issues (8%) showed a slight decrease from the previous reporting year (10%).

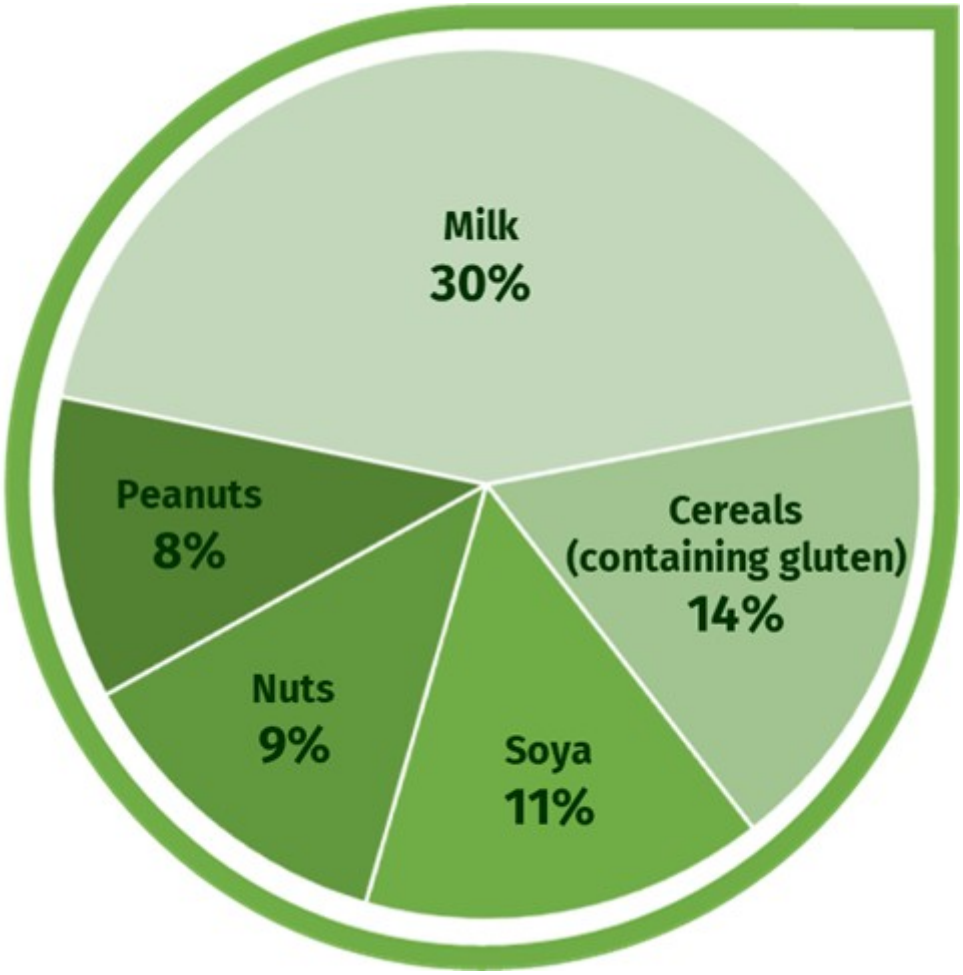
**Top 5 contributors**

**Product Types**



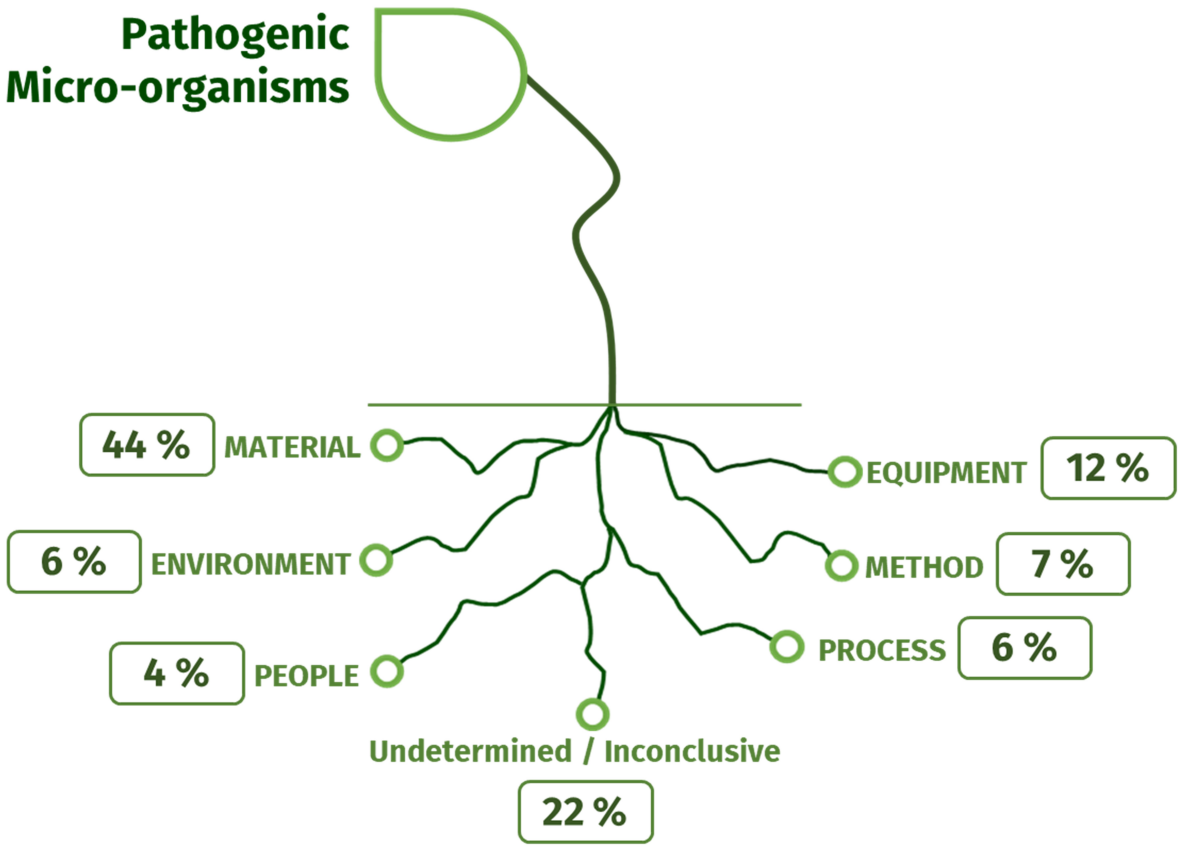

In total, 18 product categories were associated with the allergen-related RCAs received.
The 5 most prevalent product types accounted for almost two thirds (64%) of the RCAs, with ‘Cereals & Bakery products’ (23%) showing a slight increase from 2021/22 (17%).
With the exception of ‘Ices & Desserts’ the major contributors remained the same as 2021/22, albeit in different rankings.

**Allergen types**




With the exception of ‘Lupin’ all of 14 allergen types featured in the RCAs received. Additionally, 2 ‘Non-regulated Allergic reactions’ RCAs were also submitted.
The 5 most prevalent product types accounted for almost three quarters (72%) of the RCAs. With the exception of ‘Eggs’ the ranking remained the same as in 2021/22, with ‘Peanuts’ increasing from 5%.
The allergen ‘Milk’ was substantially more prevalent (30%) once again, representing a slight increase from 2021/22 (27%).

**Pathogenic Micro-organism incident RCAs received: 2022 to 2023**




## Major ‘root cause’ contributors

| | | | |
|---|---|---|---|
| 44 % | MATERIAL | Ingredient cross-contamination | 29 % |
| | | Ingredient hygiene controls - absent/inadequate | 14 % |
| 12 % | EQUIPMENT | Contamination: cleaning absent / failure | 12 % |
| 6 % | ENVIRONMENT | Ingredient / product storage controls | 6 % |

Figures for both ‘Ingredient cross-contamination’ (29%) and ‘Ingredient Hygiene Controls’ (14%) increased in the reporting year, up from 14% and 8% (respectively) in 2021/22.

**Major 'root cause' contributors**

- 29% ingredient cross-contamination
- 14% ingredient hygiene controls - absent inadequate
- 12% contamination: cleaning absent/failure
- 6% ingredient/product storage controls

Figures for both 'Ingredient cross-contamination' (29%) and 'Ingredient Hygiene Controls' (14%) increased in the reporting year, up from 14% and 8% (respectively) in 2021/22.

## Top 5 Contributors

### Product types

A total of 19 product categories were associated with pathogenic micro-organism related RCAs received.

'Meat and Meat Products' and 'Poultry Meat and Poultry Meat Products' accounted for over half of these (52%) a slight decrease from the 2021/22 figure (56%).

### Pathogen types

'Salmonella' contamination continued to dominate the RCAs received (72%), although this constituted a slight decrease from 2021/22 (75%).

The remainder comprised of 3 other pathogen types (3%) 2% of RCAs were categorised as 'undefined/inconclusive'.

## Top 5 contributors

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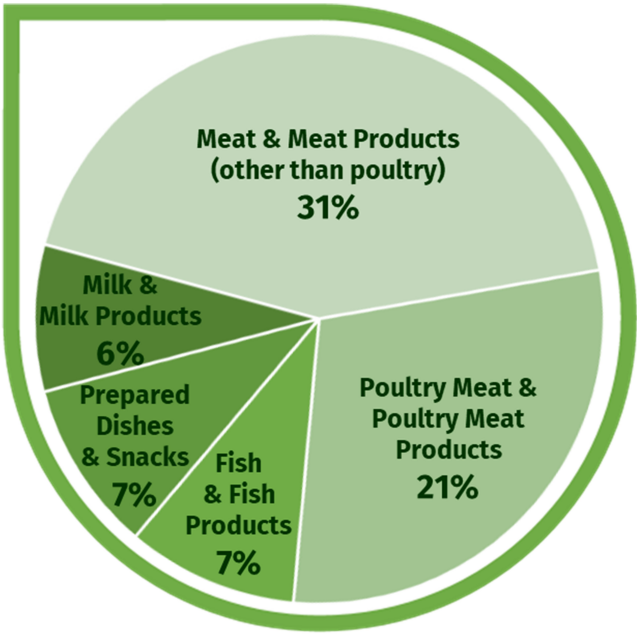


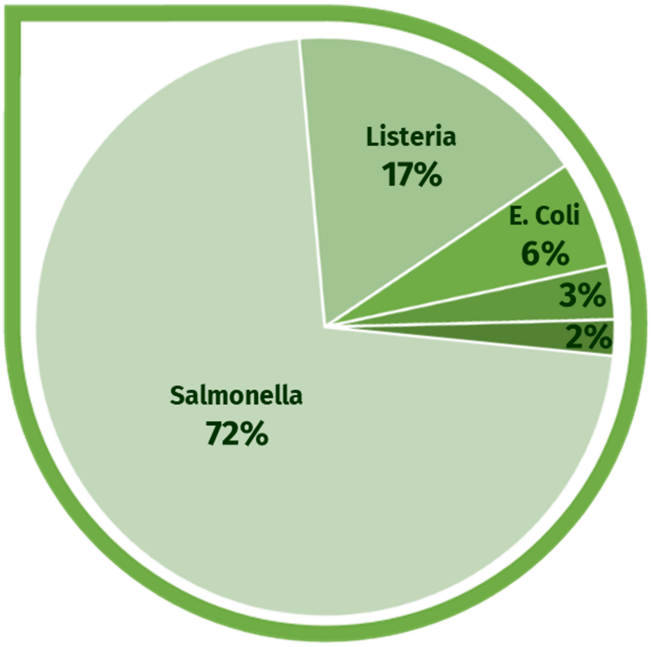


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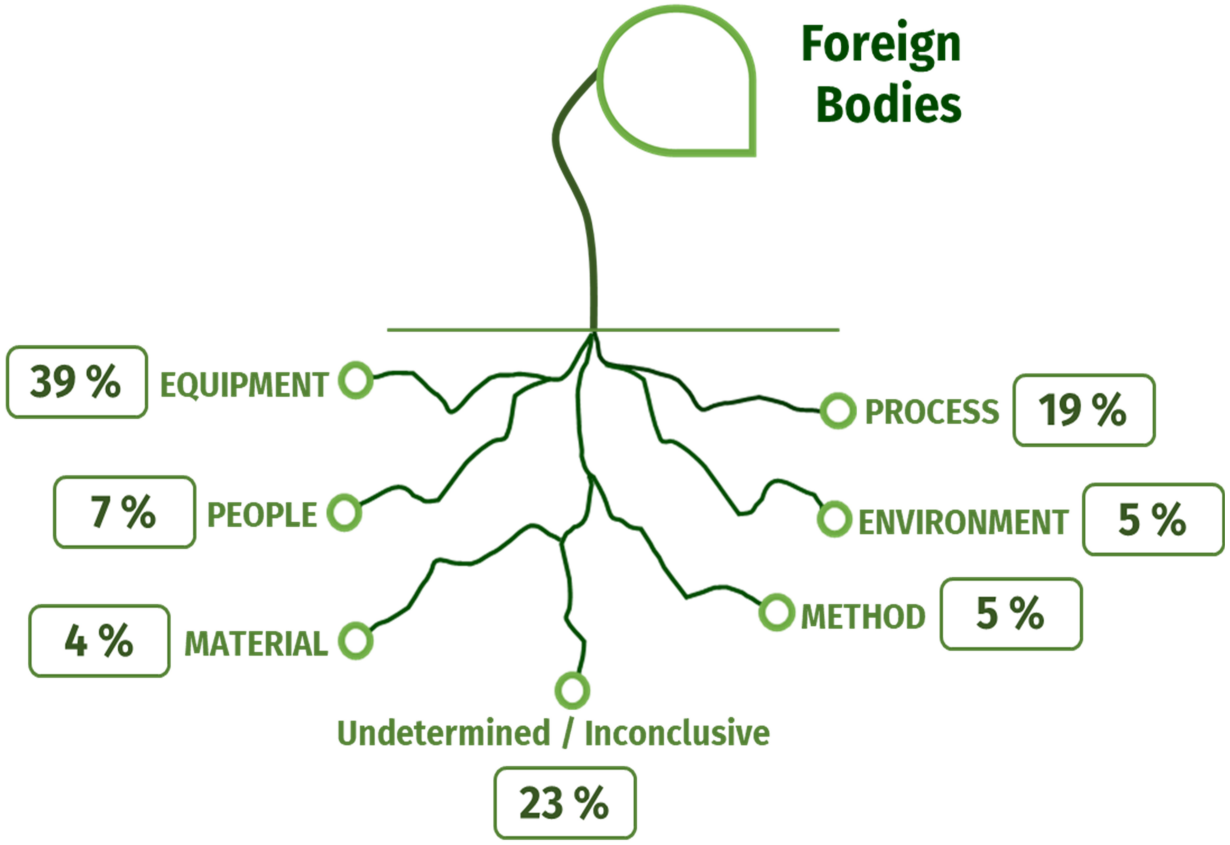
#### Foreign Body incident RCAs received 2022 to 2023

'Machinery' issues (23%) remained the highest category, with an increase from 19% in 2021/22. Issues associated with 'Quality control checks' (12%) showed a significant increase from the 5% previously reported. However, this remains half the figure (24%) observed for 2020/21.

- 39% Equipment - 23% Machinery - damage

- 19% Process - Quality control checks - inadequate/incomplete 12%




## Major ‘root cause’ contributors

| | | | |
|---|---|---|---|
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**Product types**

Foreign body RCAs received were spread over 16 product categories in total.

The 5 most prevalent product types accounted for over 3-quarters (76%) of the RCAs, with a third (33%) associated with 'Cereals and Bakery Products' alone. This constitutes almost double the figure in 2021/22 (18%).

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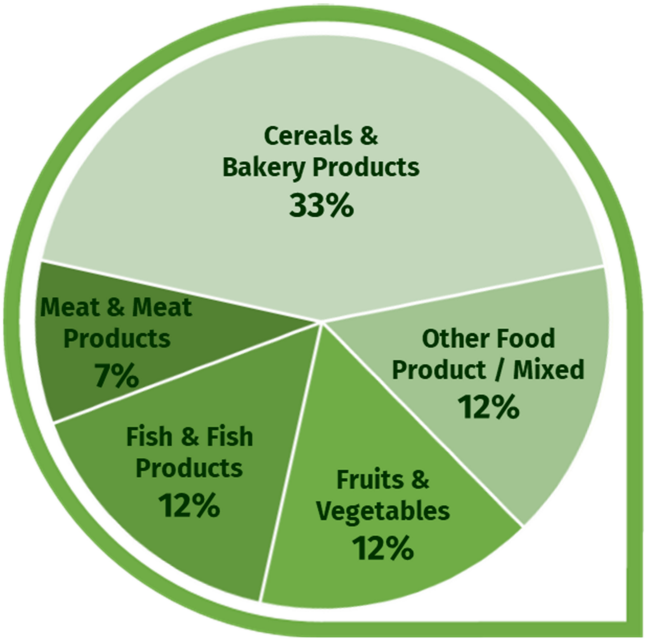


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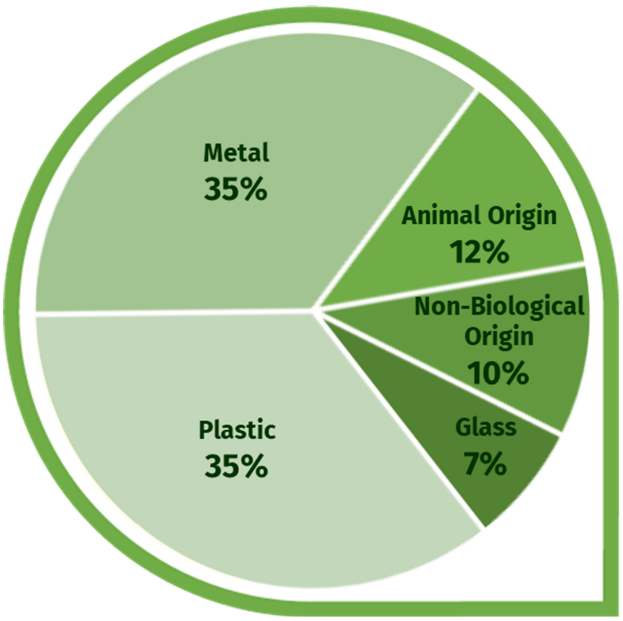
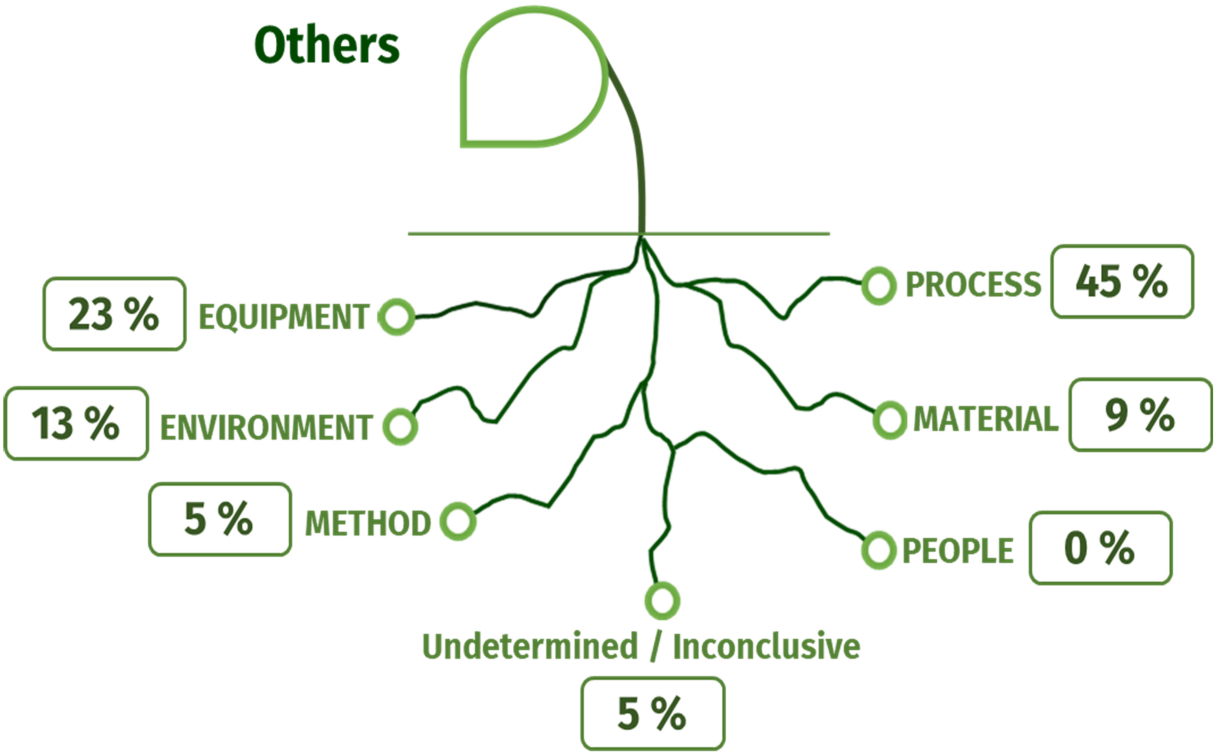



**Other Incident RCAs received 2022/23**




## Major ‘root cause’ contributors

| | | | |
|---|---|---|---|
| 45 % PROCESS | Formulation / Assembly Error | 18% |
| | Quality control checks - inadequate | 14 % |
| 23 % EQUIPMENT | Machinery - incorrect use | 14 % |

- 45% process - formulation/assembly error 18% - quality control checks - inadequate 14%
- 23% equipment - machinery/incorrect use 14%

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22 RCAs were received relating to miscellaneous incident types (up from 7 in 2021/22), which were associated with 15 different product types.

Due to the low numbers for each type, trends in the prevalence of root causes identified cannot be established.

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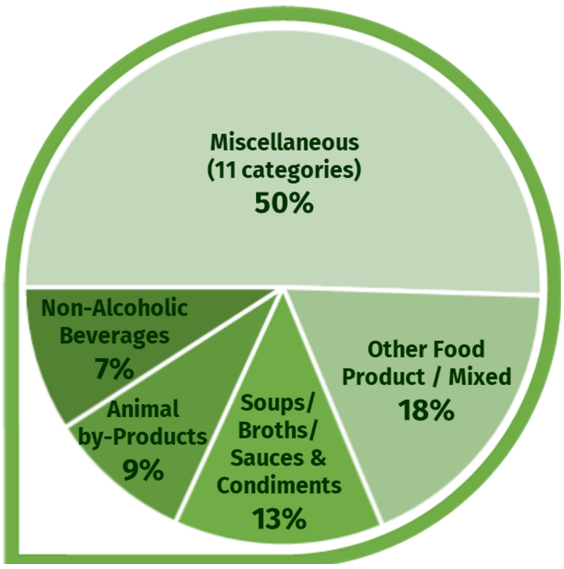
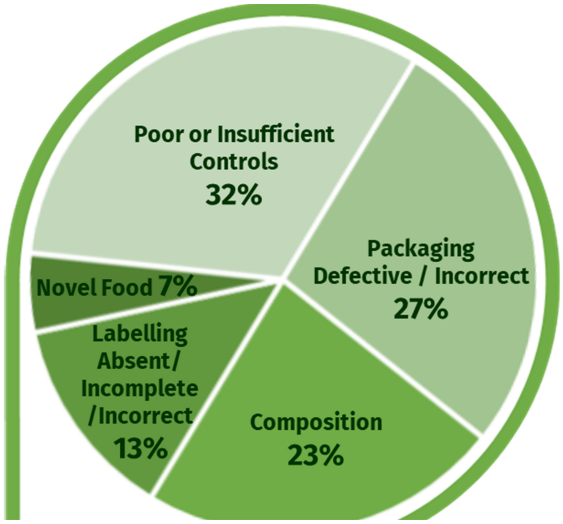



### Incident types

The RCAs were distributed over 5 categories, with the 3 main types constituting 82% of the total figure.

'Poor or insufficient controls' remained the largest contributor, with RCAs for packaging and composition issues being submitted for the first time.

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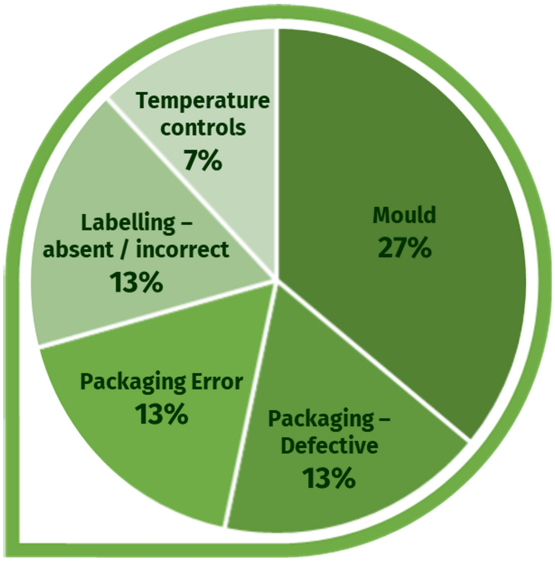


1. The term 'food' should be taken as meaning reference to 'food and feed' throughout this paper.

2. In England this is the National Food Crime Unit (NFCU), in Wales the Welsh Food Fraud Co-ordination Unit (WFFCU) and in Northern Ireland this is the FSA Food Fraud Liaison Officer.

3. Poor or insufficient controls are defined as 'Issues relating to the absence or lapse of an adequate food safety management system (FSMS), or lapses in the application of a FSMS, which may include poor HACCP controls, poor hygiene such as lack of cleaning causing cross-contamination, poor temperature controls, lack of training.' The list is not exhaustive.

4. In this section will refer to 'outbreaks' but this also refers to clusters of cases which are a concern but not declared an outbreak.

5. The prioritisation for FSA co-ordinated response is a risk-based process which uses Whole Genome Sequence (WGS) to take account of factors such as rate of increase in cases, seriousness of illness and vulnerability of consumers.

6. Glycerol in slush ice drinks | Food Standards Scotland and 'Not suitable for under-4s': New industry guidance issued on glycerol in slush-ice drinks | Food Standards Agency

7. https://www.food.gov.uk/research/efficacy-of-withdrawals-and-recalls-executive-summary