2022 Annual Report
Alert and Cooperation Network

In Brief

This annual report covers all the information shared in 2022 within iRASFF, between members of the **Alert and Cooperation Network** (ACN) that includes the **Rapid Alert System for Food and Feed network** (RASFF), the **Administrative Assistance and Cooperation network** (AAC) or the **Agri-Food Fraud Network** (FFN).

2022 shows an increase in the number of notifications shared in the AAC and FFN in comparison with previous years. This illustrates the continued commitment of Member States' competent authorities to detect and report non-compliances, even if without health risk, or when suspected of fraudulent practice. In 2022, a high number of those notifications related to pesticide residues.

The European Commission continued to assist Member States, through both expertise and IT support to facilitate the increasing exchange of information.

Due follow-up was given to suspicious cross-border fraudulent activities, leading to launching specific actions such as the coordinated control plans on the illegal trade of pets, and to deter certain fraudulent practices in honey.

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1. The Alert and Cooperation Network

The **Alert and Cooperation Network** (ACN) consists of the **Rapid Alert System for Food and Feed network** (RASFF), the **Administrative Assistance and Cooperation system network** (AAC) and the **Agri-Food Fraud Network** (FFN) as established by Regulation 2019/1715 on the Information Management System for Official Controls (the IMSOC Regulation).

Since 2021, notifications concerning the three networks are transmitted through a unique online platform, iRASFF, to enable a smooth exchange of information between European Union Member States' competent authorities and to facilitate their cooperation.

The European Commission (EC) is the manager of the system and ensures the technological support to the members. This report presents the activities of the ACN.

The **RASFF** enables competent authorities to rapidly exchange information on serious direct or indirect **risks to human health** in relation to food or feed, or serious risks to human or animal health or to the environment in relation to feed.

The **AAC** allows competent authorities to share information (and subsequently investigate and take action) on c**ross-border violations of the European Union agri-food chain legislation** that do not present a priori a health risk.

Fig.1: Components of the Alert and Cooperation Network

The **A**lert and **C**ooperation **Net**work
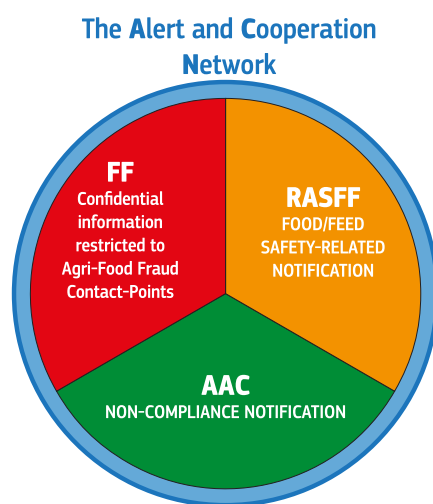
In cases where potentially fraudulent or deceptive practices are identified, Member States can cooperate to further investigate the fraud suspicions by reporting the case in the **FFN**. Cases related to a suspicion of fraud follow a restricted information flow available only for FFN contact points, as such data are strictly confidential.

RASFF notifications relate to a risk deriving from food, food contact material or feed or a serious risk to animal health and to the environment derived from feed.

Non-compliance (AAC) notifications are made in case of non-compliance of a food, food contact material or feed that does not present a risk, in case of non-serious risks to animal health, or in case of risks to plant health or animal welfare.

Fraud (FF) notifications are made when a fraud is suspected in a non-compliance, implying an intentional action by businesses or individuals for the purpose of making an economic gain. The iRASFF system allows an easy flow of information. For example, it is possible for food fraud elements to be added to a RASFF notification and shared (in a confidential way) within the FFN. Also, an AAC notification can become a RASFF notification if further details on health concerns are made available.

Members of the ACN are the EU Member States, the European Economic Areas (EEA) countries (Norway, Iceland, and Liechtenstein), the European Food Safety Authority (EFSA), Switzerland and the European Commission. All members have appointed dedicated single Contact Points with out-of-hours arrangements (24/7) to address any emergency related to a RASFF notification made outside office hours.

More information concerning cooperation with Member States and non-EU countries is available **here**.

2. Main activities of the Alert and Cooperation Network

In 2022, the AAC and the FFN registered the **highest number of notifications ever transmitted** for these two networks. For RASFF, 2022 instead ranked second, after 2021, in terms of the number of original notifications circulated.

In line with 2020 and 2021, **pesticide residues was the most important hazard** for health-related cases (990 RASFF notifications).

Over the course of the year, 4 361 RASFF and 2 554 AAC notifications were transmitted in iRASFF. Follow-ups provide supplementary information to the original notification (such as measures taken and traceability information), while conversations enable network members to rapidly interact with each other.

Early in 2023, these 2022 RASFF notifications already generated close to 15 000 follow-up notifications while AAC notifications more than 2 500. Furthermore, a total of almost 12 000 RASFF, AAC and FFN conversations were held.

In 2022, 600 notifications for suspicions of fraud were registered. These notifications are requests for cooperation among network members. They are not confirmed frauds. They aim at alerting other members to trigger investigations by the countries concerned. Among fraud suspicions the most frequent request for cooperation has been related to the **illegal movement of cats and dogs** (276 FF notifications).

The EC regularly reviews all information in iRASFF to assess, in agreement with the Contact Points, if they comply with the necessary criteria to be transmitted and if they are shared in the appropriate network. Thanks to such monitoring exercise, 74 AAC notifications were escalated to RASFF as they posed a health risk.
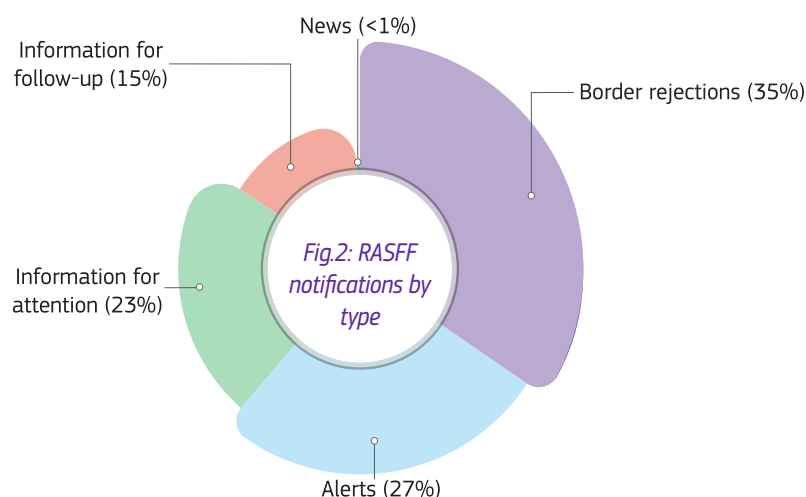
RASFF and AAC notifications are also regularly analysed to find potential frauds. Fraud elements were detected in 1 168 RASFF and 530 AAC notifications. If a suspicious case is found, the EC invites the countries concerned to initiate appropriate fraud investigations.

3. The Alert and Cooperation Network in figures

3.1. The Rapid Alert System for Food and Feed

Among the **4 361 RASFF notifications registered in 2022**, 3 904 concerned food, 234 feed and 219 food contact material.

In 2022, **21 incidents** were identified in RASFF. An incident is created when two or more RASFF notifications are linked as, for instance, they share the same upstream traceability for similar (but not identical) products or they concern identical products but different lots. The most common incident type concerned accidental or environmental contamination (11 incidents).

Information for follow-up (15%)
News (<1%)
Border rejections (35%)
Information for attention (23%)

Fig.2: RASFF notifications by type

Alerts (27%)

An exceptionally high number of notifications was reached in 2021 due to the ethylene oxide crisis.
A slight decrease in the number of original notifications was thus registered between 2021 and 2022 (– 5.9%).

However, 2022 ranked second in terms of highest number of original notifications transmitted in the history of RASFF. Compared to 2021, alerts (1 164 notifications) decreased by 20.4%.

Alert notifications are created when food, feed or food contact materials posing a serious risk are present on the market and rapid action is needed in a Member State other than the notifying country.

Border rejection notifications accounted for 1 514 cases, and concern products that were blocked at the external borders of the EU and the EEA when a health risk was found. Border rejections are the only notification type that registered an increase in comparison with 2021 (+ 3.1%), signaling that more goods with a health risk never reached the EU market due to controls at the borders. It is noteworthy that border inspectors can use the information about a rejected consignment in the Trade Control and Expert System (TRACES) to start a RASFF notification and share it with the ACN, representing a good example of cooperation among the two systems.

999 **information notifications for attention** were shared, and regard products in which a risk is identified but does not require rapid action as the product was present only in the notifying member country or was not placed on the market or was no longer on the market. Interestingly, for all notification types listed until now fruits and vegetables were the top reported product category.

667 **information for follow-up** that identified a non-serious risk not requiring rapid action by member countries, were notified in 2022. 120 of these concerned dietetic foods, food supplements, fortified foods that may have been placed on the market.

Leaving aside border rejections, the most reported notification basis for goods detected on the market was an official control on the market (1 322), followed by a company's own check (933), a consumer complaint (200), and monitoring of media (99).

Fig.3: RASFF Notifications related to products on the market by notifications basis
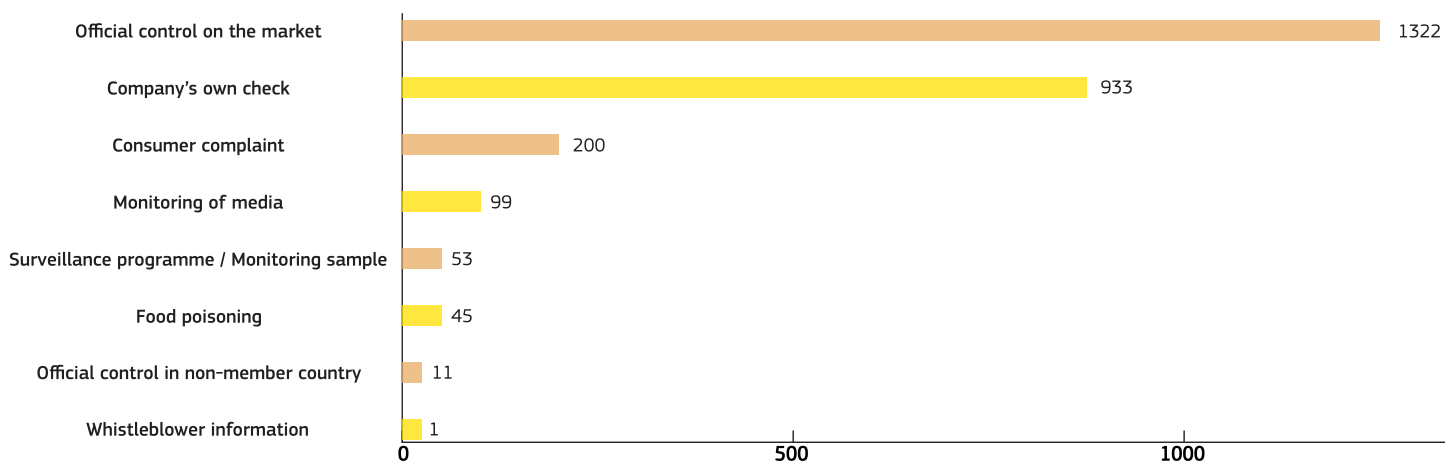
In line with the previous three years, Germany remained the most active EU country in RASFF in 2022 (586 notifications transmitted). The Netherlands (559) followed with an increase of 25.9% compared to 2021, followed by Belgium (428) and Poland (320). Germany and the Netherlands were also the top reporting Member States in terms of follow-ups created in 2022 (with respectively 6 921 and 4 589), followed by Belgium (3 296) and Italy (3 099). The number of notifications for every member country of origin is shown in Fig. 4. The most common European countries of origin were Poland (312 notifications) and the Netherlands (257).

Fig.4: RASFF Notifications by member countries of origin

Iceland 3

Finland 7

Norway 8

Sweden 34

Estonia 4

Latvia 13

Lithuania 29

Northern Ireland* 7

Ireland 34

Netherlands 257

Belgium 125

Germany 173

Poland 312

Luxemburg 7

Czechia 30

Slovakia 14

France 226

Switzerland 7

Austria 34

Hungary 32

Slovenia 11

Romania 21

Portugal 25

Spain 159

Croatia 7

Italy 146

Bulgaria 18

Greece 18

Malta 1

*In accordance with the Agreement on the withdrawal of the United Kingdom of Great Britain and Northern Ireland from the European Union and the European Atomic Energy Community, and in particular Article 5(4) of the Protocol on Ireland/Northern Ireland in conjunction with Annex 2 to that Protocol, for the purposes of this report, references to Member States include the United Kingdom in respect of Northern Ireland. The Northern Irish authorities participate in RASFF albeit not through iRASFF but through direct communication with the European Commission's contact point.
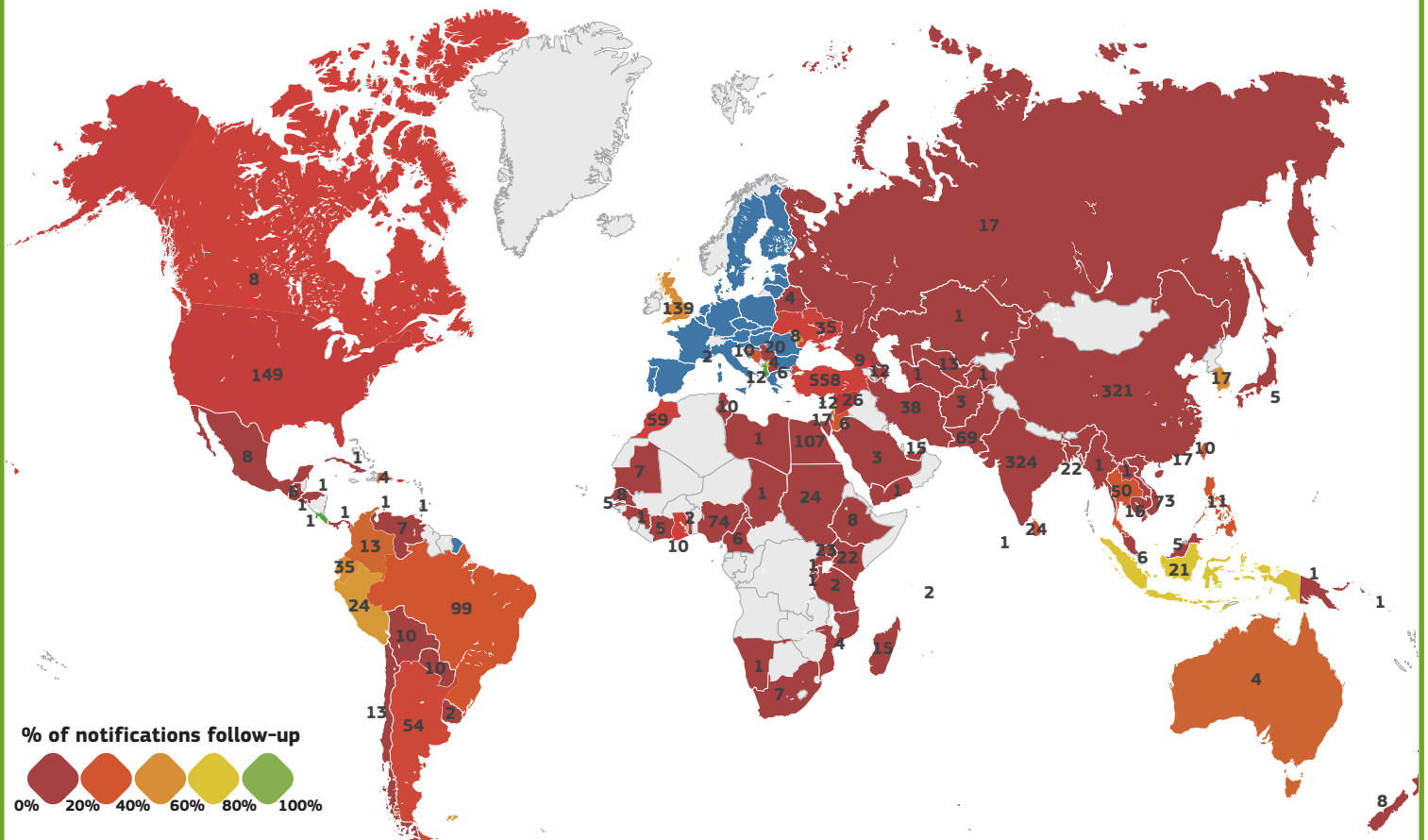
The next figure shows the number of notifications per non-member country of origin and the country's response rate, defined as the percentage of notifications to which the country has responded with follow-up information.

The EC systematically informs non-member countries when they are involved in a RASFF notification, either as countries of origin or as countries of distribution of the products.

Their follow-ups are then communicated through iRASFF to all members of the network.

In line with 2021, the most notified non-member countries of origin were Türkiye (557 notifications) and India (299) mainly in relation to finding of pesticide residues.

Fig.5: Notifications by non-member countries of origin of the notified product and rate of feedback

% of notifications follow-up

0%   20%   40%   60%   80%   100%

3.1.1. Hazard categories

The next figure shows the most recurrent RASFF notifications, presented as combinations of hazard category, product category and country of origin of the product. The table includes all types of products (food, feed and food contact material), all origins (EU and non-EU), and all types of control (at the borders and on the market).

Fig.6: Top 10 number of recurrent RASFF notifications

Hazard	Product category	Origin		Total
Pesticide residues	Fruits & vegetables	Türkiye		299
Salmonella	Poultry meat & poultry meat products	Poland		190
Composition	Food contact material	China		76
Salmonella	Nuts, nut products and seeds	Nigeria		66
Aflatoxins	Nuts, nut products and seeds	United States		53
Salmonella	Herbs & Spices	Brazil		46
Aflatoxins	Cereals & bakery products	Pakistan		42
Aflatoxins	Nuts, nut products and seeds	Egypt		40
Aflatoxins	Nuts, nut products and seeds	India		39
Aflatoxins	Nuts, nut products and seeds	Türkiye		39

The following figures focus on food only (feed and food contact material not included). The specific hazards of each RASFF notification are automatically assigned to food hazard categories in an internal EC database.

The figures regarding adulteration/fraud only cover some hazards (i.e. improper or absence of health certificates and analytical report, attempt to illegally import etc.) and not all notifications for which fraud elements were identified after a screening targeted to suspicions of fraud (which will instead be treated in section 3.3.7).

Fig.7: RASFF notifications by food hazard category 2020-2022
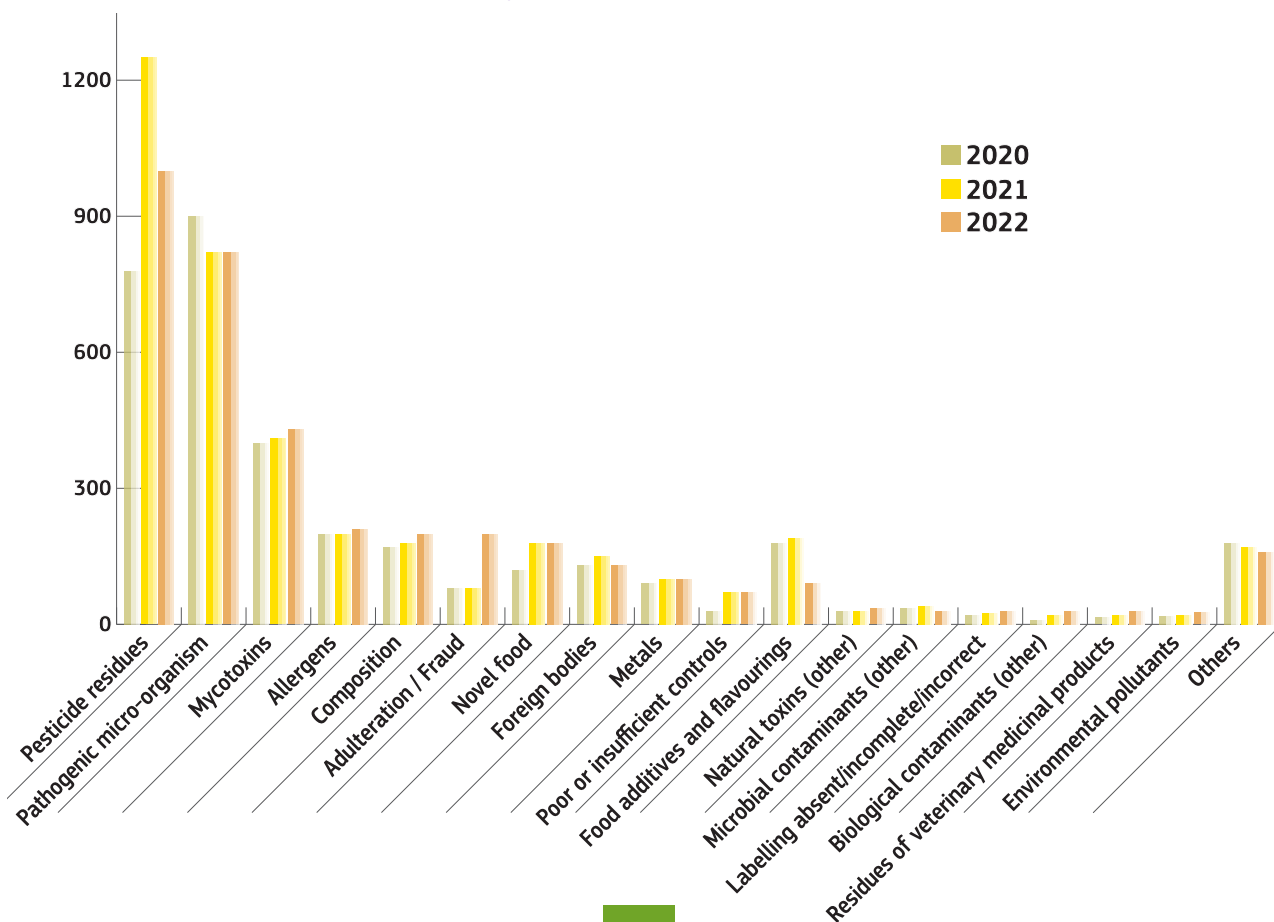
3.1.2. Pesticide residues in food

As shown in the last figure and in line with previous years, in 2022, pesticide residues were the most notified issue in RASFF (990 notifications). These notifications decreased in comparison with 2021 (from 1 231 to 990).

The most common product category is fruits and vegetables (594 notifications), of which in 396 cases pesticide residues were detected during border controls and in 198 cases on the market. The second top reported product category was instead herbs and spices (116).

Pesticide residues issues escalated to RASFF most frequently involved fruits and vegetables from Türkiye (430 notifications). The top reporting country was Bulgaria (212), followed by Germany (100).

Moreover, as shown in fig. 8, the most common pesticides were chlorpyrifos (251), ethylene oxide and 2-chloroethanol (186) and chlorpyrifos-methyl (142).

Fig.8: Number of RASFF notifications on pesticides in food (top 10)

Substance	Notifications
Unauthorised substance chlorpyrifos	251
Unauthorised substance ethylene oxide & 2-chloroethanol	186
Unauthorised substance chlorpyrifos-methyl	142
Acetamiprid	57
Unauthorised substance tricyclazole	52
Lambda-cyhalothrin	37
Unauthorised substance carbendazim	33
Unauthorised substance dimethoate	32
Unauthorised substance thiamethoxam	31

3.1.3. Pathogenic microorganisms

With 857 notifications, pathogenic microorganisms were the second most reported hazard category in food. The most common food categories were poultry meat and poultry meat products (300) and nuts, nut products and seeds (122).

Other (4%)

Bacillus cereus (1%)

Norovirus (4%)

Escherichia coli (5%)

Listeria monocytogenes (16%)

Fig. 9: RASFF notifications on pathogenic microorganisms in food
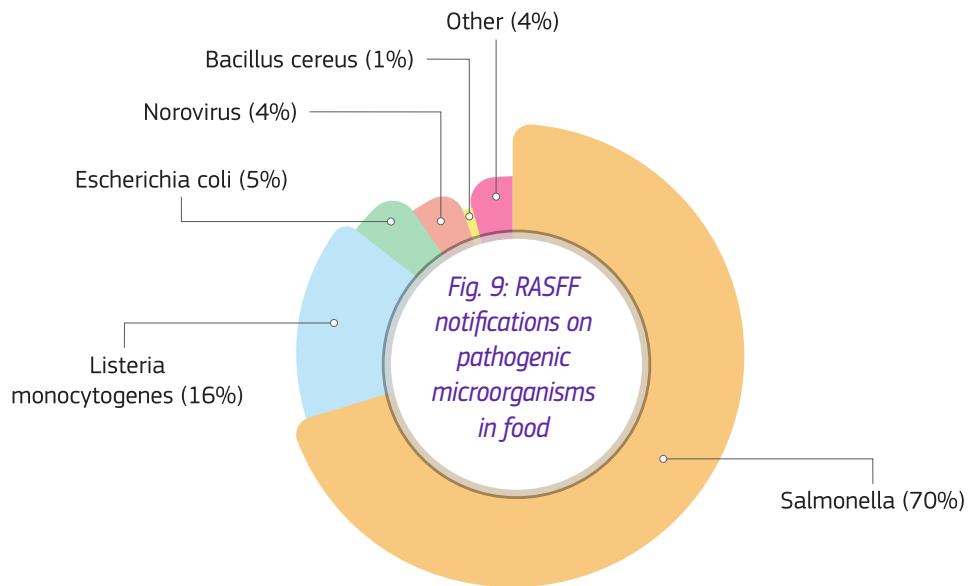
Salmonella (70%)

Similarly to 2021, Salmonella was the most reported pathogenic microorganism (603 notifications), followed by Listeria monocytogenes (132) and Escherichia coli (41), all primarily detected in products of animal origin. 190 Salmonella notifications concerned poultry meat and poultry meat products from Poland, while for Listeria monocytogenes the top reported food category was fish and fish products (37 notifications).

The vast majority of detections of Escherichia coli concerned shigatoxin-producing Escherichia coli (39), found mainly in meat and meat products (other than poultry) (25).
Lastly, Bacillus cereus was notified in 10 notifications.

3.1.4. Foodborne outbreaks

In 2022, 41 notifications on foodborne outbreaks were transmitted in RASFF.
From these 41 notifications, 12 identified Salmonella as the (probable) cause, 7 were linked to Listeria monocytogenes, 5 were linked to histamine poisoning and 4 were linked to norovirus. In total, 7 notifications were related to a multi-country foodborne outbreak.

In such event, EFSA and the European Centre for Disease Prevention and Control (ECDC) may decide, after consulting with the EC, to launch a joint action. It may also be started at the EC request.
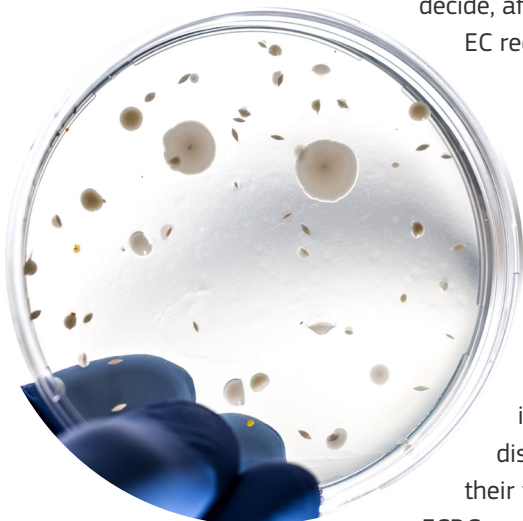
Such joint EFSA-ECDC action can take the form of a Rapid Outbreak Assessment (ROA), which is made public, or of a Joint Notification Summary (JNS), which is not made public. Both are jointly prepared by EFSA and ECDC in close cooperation with affected countries. The ROA gives an overview of the situation in terms of public health and possibly identifies the contaminated food vehicle that may have caused the outbreak. It also includes results of trace-back and trace-forward investigations to help identify the origin of the outbreak and where contaminated products have been distributed. Involved network members use RASFF notifications to inform about their food investigations in the context of the outbreak. When finalised, EFSA and ECDC make an anonymised version of the ROA public on their website.

ROA in 2022:

8 February 2022 – Multi-country outbreak of Salmonella Enteritidis sequence type (ST)11 infections linked to eggs and egg products. Available **here**.

12 April 2022 – 18 May 2022 (first update) – 8 June 2022 (amended)– Multi-country outbreak of monophasic Salmonella Typhimurium sequence type (ST) 34 linked to chocolate products. Available **here**.

30 November 2022 – Multi-country outbreak of Salmonella Mbandaka ST413, possibly linked to consumption of chicken meat in the EU/EEA, Israel and the United Kingdom. Available **here**.

The joint notification summary (JNS) is a summary of the state of play of a smaller scale multi-country food-borne outbreak with a brief preliminary assessment made by ECDC and EFSA, shared only in the Early Warning and Response System (EWRS), in the Epidemic Intelligence Information System (EPIS) and RASFF platforms.

JNS in 2022:

Multi-country outbreak of Salmonella Ball ST3502.

3.1.5. Multi-country outbreak of monophasic Salmonella Typhimurium sequence type (ST) 34 linked to chocolate products

On 25 March 2022 the EC transmitted a RASFF notification (2022.1799) about an ongoing multi-country foodborne outbreak of monophasic Salmonella Typhimurium, possibly caused by chocolate products of a specific brand.

The notification was triggered by epidemiological investigations performed in United Kingdom, followed by investigations in France, Germany and Sweden. Those countries reported the consumption by the cases of different types of chocolate products from the specific brand. Molecular typing confirmed isolation of the bacteria Salmonella Typhimurium sequence typing 34 and epidemiological evidence has subsequently linked the outbreak to the suspected chocolate products from Belgium.

Two strains of monophasic Salmonella Typhimurium matching the outbreak strains were identified in the anhydrous milk fat line at the Belgian plant between December 2021 and January 2022. The anhydrous milk fat was provided by an Italian supplier, where Salmonella was not detected. This supplier delivered the anhydrous milk fat to other plants of the company where Salmonella was not detected. A RASFF notification (2022.2201) was issued on the raw material anhydrous milk fat supplied by Italy.

On 8 April 2022, the food safety authority in Belgium informed through RASFF that the investigation in the Belgian processing plant had shown that the plant had not been able to provide the necessary guarantees concerning its management of the contamination and was therefore not able to guarantee the safety of its products.

The food safety authority decided to withdraw the authorisation for production of the Belgian processing plant. The company decided to extend the recall to all batches of the specific brand manufactured in this facility, regardless of lot number or expiration date.

On 27 April a RASFF notification (2022.2452) was transmitted by the Belgian Authorities in order to share the traceability of the chocolate products related to the foodborne outbreaks manufactured at the Belgian processing plant. According to the RASFF notification, these products were distributed to 99 EU and non-EU countries.

By the end of June 2022, over 300 cases of monophasic Salmonella Typhimurium clustering by whole genome sequencing analysis had been reported in 14 EU/EEA countries (Austria, Belgium, Czechia, France, Denmark, Germany, Ireland, Italy, Spain, Slovenia, Sweden, Netherlands, Norway, Luxembourg) the United Kingdom and the United States, including two distinct strains.

The majority of cases were children and a high proportion of cases were hospitalised. The closure of the Belgian plant and the global recall of all their products reduced the risk of exposure. However, some cases could not be explained by consumption of chocolate products such as those manufactured at the Belgian plant, suggesting that there may also have been other sources of infection.

3.1.6. Mycotoxins

In line with previous years, mycotoxins were the third most notified hazard category (485 notifications with a 10.5% increase compared to 2021).

These mainly regarded the detection of aflatoxins (413), and the product category nuts, nut products and seeds (254). The top reported origin was the United States (53).

3.1.7. Other hazard categories

Allergens were detected in a large number of notifications (210), with cereals and bakery products as top reported product category (32) and milk as most common allergen notified (46). Issues related to composition were reported in 208 notifications, primarily concerning dietetic foods, food supplements, fortified foods (140 notifications) and findings of unauthorised substances such as yohimbine (31).

3.1.8. Feed

Over the course of 2022, 234 RASFF notifications on feed were registered. The most common cases were a result of an official controls on the market (89) or a company's own check (87). The most common hazard was Salmonella (105). Other microbiological contaminations regarded consignments with high count or too high count of Enterobacteriaceae (17), detected mainly in dog chews.

Some notifications (17) reported a non-compliant composition of feed, of which eight regarded too high content of ragweed (Ambrosia spp.) seeds.

15 notifications instead concerned pesticide residues, and in line with food the most reported pesticide is chlorpyrifos (five). In 12 notifications an unauthorised feed additive was reported. Half of them concerned unauthorised feed additive cannabidiol (CBD), and all were notified by Lithuania.

3.1.9. Food contact material

219 notifications concerning food contact materials were transmitted in 2022, around half of which (105) related to the migration of a wide variety of substances. The majority concerned primary aromatic amines (38), followed by formaldehyde (13) and lead (10). 77 original notifications reported the unauthorised use of bamboo.

Most original notifications reported on food contact material (152) originating from China. Concerning notifying countries, the top reporting Member State was Spain (34), followed by Poland (26) and Ireland (20).

3.2. Non-compliance notifications

In 2022 AAC notifications have reached the number of 2 554, confirming the steady increase in the use of the Administrative Assistance and Cooperation network registered since its creation. This shows that the system is considered a valuable tool to exchange information by its members. Germany is by far the country creating most of the notifications in the system (35.3%), followed by Belgium (10.2%) and Austria (9.3%).

Concerning the origin, 65.6% of notifications involved goods coming from the EU and 33.9% from outside the EU. For 0.5% of the cases, the origin was instead not specified or under investigation.

Most AAC notifications concerned cases related to food (85.1%), followed by feed (6.6%), live animals (5%), food contact materials (3.1%) and plant health and plant protection products (0.2%).

Fig. 10 displays the product categories notified in 2022. The three most notified product categories remained the same compared to data since 2018, with only changes in their ranking.

The top reported product category was fruits and vegetables (17.3%), of which 340 notifications concerned the detection of pesticide residues. The second most notified category was dietetic foods, food supplements and fortified foods (9.5%). Typical cases regarded faulty labelling or claims (125), which were primarily claims attributing preventing, treating and curing abilities to the food supplements (treatment of digestion problems, beneficial to asthma, fat burner).

Another recurrent issue was non-compliant composition (65).
This concerned mainly the detection of different content of a substance, such as vitamins or minerals, than labelled or the detection of unapproved foods or food ingredients (often cannabidiol, CBD).

Meat and meat products (other than poultry) ranked third (7%). 59 notifications were about faulty labelling or claims, often regarding non-compliant denominations, ingredient lists, nutrition declarations or expiry dates attributed to the product. Lacking or improper documentation issues (52) were also often notified, pointing at non-compliant or missing official certificates or health marks.

Fish and products thereof were notified in 6% of the cases, mostly concerning faulty labelling or claims (63) for non-compliant or missing indications of the weight (net or drained), water ice glaze, or storage conditions.

In addition, several cases on poor hygiene conditions were created under faulty processing or storage conditions (39). Another recurrent category was cereals and bakery products (5%), reported mainly for non-compliant composition (56) due to the detection of pesticides and additives not presenting a risk for public health.

Lastly, poultry meat and poultry meat products doubled compared to 2021 and were notified in 4.8% of cases. Most notifications (63) concerned the detection of Salmonella, Campylobacter, or hygiene deficiencies in the manufacturing plant falling under the non-compliance category faulty processing or storage conditions and not presenting a risk for public health.

Fig.10: AAC notifications per product category

Product category	Value
Fruits & vegetables	442
Dietetic foods, food supplements & fortified foods	231
Meat & meat products (other than poultry)	178
Fish & products thereof	153
Cereals & bakery products	126
Poultry meat & poultry meat products	123
Milk & milk products	96
Other food product / mixed	91
Feed materials	91
Herbs & spices	85
Food contact materials	81
Prepared dishes & snacks	73
Fats & oils	60
Non-alcoholic beverages	60
Confectionery	58
Soups, broths, sauces & condiments	57
Live animals	54
Nuts, nut products & seeds	47
Cocoa & cocoa preparations, cofee & tea	46
Alcoholic beverages	44
Cats & dogs	37
Wine	35
Compound feeds	33
Crustaceans & products thereof	32
Horses	31
Honey & royal jelly	26
Cephalopods & products thereof	26
Other	138

The most recurrent non-compliances categories for 2022 are shown in fig. 11. The top reported type of violation was faulty labelling or claims (35.2%), with cases concerning labels in which the mandatory information to consumers was non-compliant or lacking (name of the product, list of ingredients, nutrition declaration) or unauthorised health claims.

Non-compliant composition ranked second (33.3%), with a vast majority of cases on pesticides residues found above their Maximum Residues Level (MRL) but not representing a health risk. Unauthorised additives or the unauthorised use of an additive in a certain product, and unauthorised novel foods were also often notified.
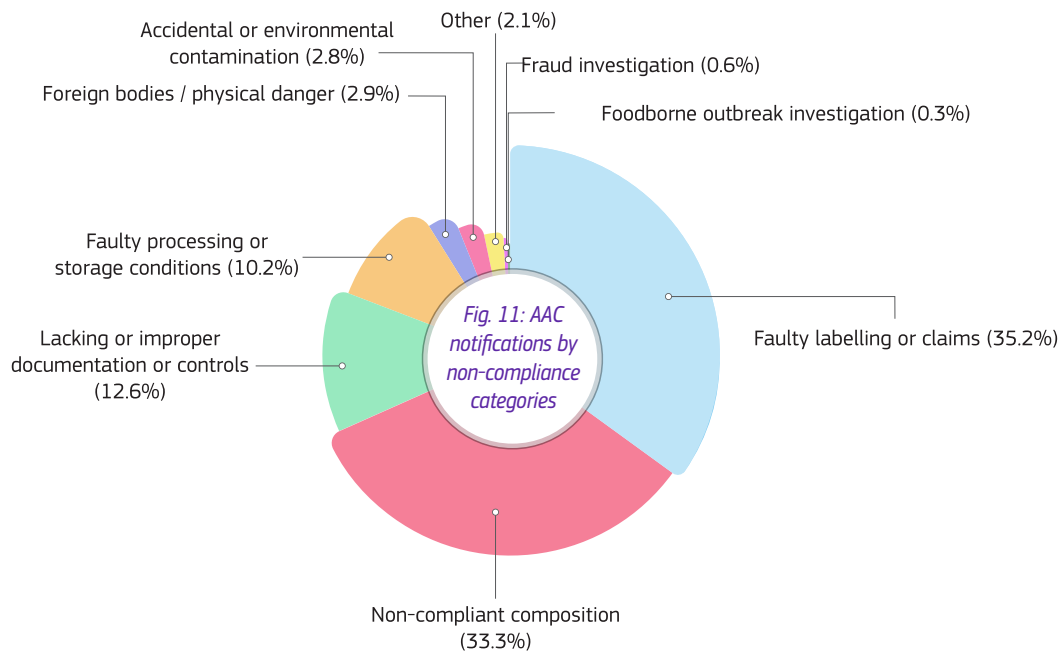
Lacking or improper documentation or controls follows (12.6%) with non-compliant or lacking information in a wide variety of documents, ranging from trade documents and health certificates accompanying goods to animal identification ones. This non-compliance was mainly identified for products of animal origin or live animals.

Faulty processing or storage conditions represented 10.2% of notifications, including microbiological contaminants, poor temperature during transport and poor hygiene conditions at the responsible operator. Most notifications belonging to the category foreign bodies/physical danger (2.9%) regarded insects or extraneous objects that were not of sufficient size and sharp enough to cause physical harm.

2.8% of notifications concerned accidental or environmental contamination, and 2.4% of cases classified as other concerned requests for assistance between Member States related to the exchange of information (analytical methods, verification of operators, and implementation of national or European legislation).

Lastly, 0.6% of notifications regarded fraud investigations and 0.3% concerned foodborne outbreak investigations.

These last two categories are used for cases that are not yet confirmed frauds or for which the source of an outbreak is not yet known, to allow Member States already to exchange information and investigate such suspicions.

Accidental or environmental contamination (2.8%)

Other (2.1%)

Foreign bodies / physical danger (2.9%)

Fraud investigation (0.6%)

Foodborne outbreak investigation (0.3%)

Faulty processing or storage conditions (10.2%)

Lacking or improper documentation or controls (12.6%)

Fig. 11: AAC notifications by non-compliance categories

Faulty labelling or claims (35.2%)

Non-compliant composition (33.3%)

3.3. Agri-food fraud notifications

In 2022, the **number of notifications** exchanged by the FFN related to suspicions of fraud reached a total of 600, with a **significant increase compared to 2021** (407). Overall, the constant increase of the number of notifications exchanged indicates the constant increase of the administrative assistance and cooperation between the FFN members.

The EU Coordinated Actions carried out in 2022 (adulteration of honey and illegal trade of pets) have impacted greatly the increase in total number of FF notifications. These actions are conducted by Member States and coordinated by the EC in certain specific sectors of the agri-food chain. They comprise a collection of data, analytical testing (if needed) and investigations by Member States authorities, often in collaboration with other EC Directorates-General such as the Directorate-General Agriculture and Rural Development (DG AGRI), Directorate-General Taxation and Customs Union (DG TAXUD) and the Joint Research Center (JRC) or EU bodies such as the European Anti-Fraud Office (OLAF) and EUROPOL. The EU Coordinated Action on illegal trade of cats and dogs represented a total of 46% (276) of the notifications and will be treated in detail separately. The following section will exclusively analyse the 324 notifications concerning all other product categories.
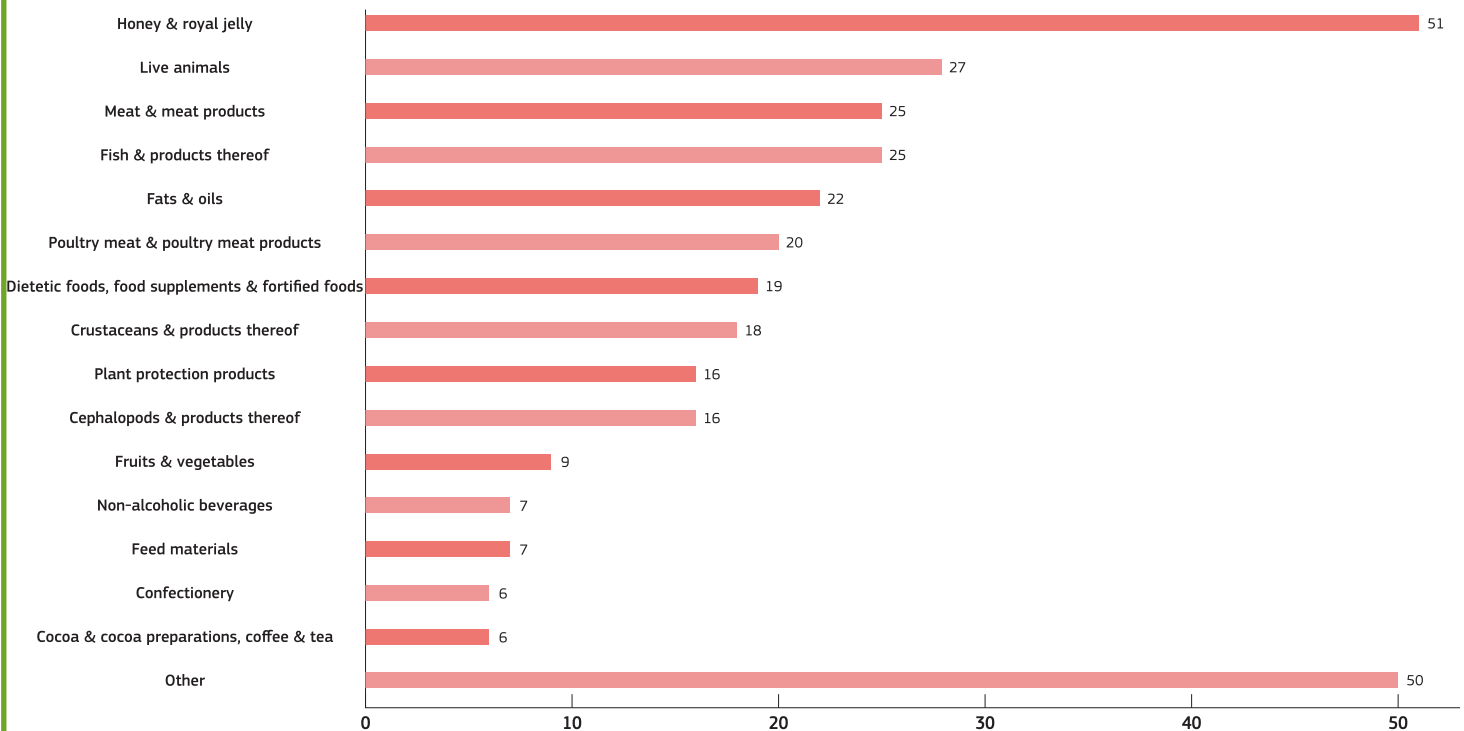
Like the past three years, the top reporting countries on fraud suspicions were Germany (26.5% of notifications transmitted), Belgium (21%) and France (13.3%). The EC created 4.7% FF notifications.

Concerning the origin of the products reported in the system, 72.7% concerned goods coming from the EU and 26.7% from outside the EU. For 0.6% of the notifications, the origin was either not specified or still under investigation. From the cases involving products of non-EU origin 21% concerned China, mostly involving suspicions of adulteration in honey, followed by misdescription of fish products. 12% concerned India, involving mainly suspicions of adulteration of shrimps (undeclared addition of water).

In the case of products from EU, 15.4% of cases concerned Spain, mainly involving suspicions of adulteration of squid products, followed by mislabeling of olive oil as extra virgin olive oil. 12.9% concerned the Netherlands, mainly involving misdescription and smuggling of animal products.

In Fig.12, the total number of notifications by product category is presented:

Fig.12: Number of FF notifications by product categories

Category	Value
Honey & royal jelly	51
Live animals	27
Meat & meat products	25
Fish & products thereof	25
Fats & oils	22
Poultry meat & poultry meat products	20
Dietetic foods, food supplements & fortified foods	19
Crustaceans & products thereof	18
Plant protection products	16
Cephalopods & products thereof	16
Fruits & vegetables	9
Non-alcoholic beverages	7
Feed materials	7
Confectionery	6
Cocoa & cocoa preparations, coffee & tea	6
Other	50

Honey and royal jelly (representing 15.7% of the total cases) was the most reported category and is linked to the EU Coordinated Action on the adulteration of honey with extraneous sugars.

The second category most reported (8.3%) concerned live animals (excluding cats and dogs), and in line with 2021, horses were the most notified. These cases regarded consignments of animals that have not undergone the necessary controls and/ or are not fit for human consumption and that are illegally brought into the food chain. More precisely, around a half of the requests presented forgery or absence of animal passport and identification elements (such as microchips, health certificates, or necessary registration in national databases or TRACES) and the other half regarded smuggling and illegal trade. It is to be highlighted that most of the cases regarding smuggling of animals also include some form of document forgery.

Suspicions on meat and meat products (other than poultry) and fish and fish products each represent 7.7% of the notifications. The first was notified primarily due to smuggling, illegal import, prod uction, slaughter and trade, and mislabeling (i.e. products not fulfilling the specific characteristics established for that category or indicated on the label). Notifications on fish and fish products slightly decreased compared to the last 3 years, and mainly concerned cases of adulteration, such as substitution of fish with lower value species or processed product.

Other recurrent cases regarded the application of unapproved and undeclared treatment or process (such as color-stabilising treatments of tuna to suggest a higher quality), or smuggling and suspicious intra-EU movements of European glass eels Anguilla anguilla.

Cases on fats and oils (6.8%) decreased in comparison with last year, but the type of suspicions of fraud remained related to mislabeling. All concerned violations with marketing standards of olive oil found through official controls on the market, most notably selling Olive Oil as Extra Virgin Olive Oil and thus suggesting a higher quality product.

The number of requests regarding poultry meat and poultry meat products (6.17%) remained steady compared to 2021. The most reported violation was the addition of water in chicken to artificially increase its weight and sell it for a higher price. Another recurrent violation was the misleading labelling of products, such as violations regarding the freezing date, the quantity and/or the quality.

Notified cases of dietetic foods, food supplements and fortified foods (5.8%) increased since 2021. Typical cases concerned findings of food supplements on the market that were not previously authorised in the notifying country, followed by unapproved addition of substances and unauthorised health claims related to their consumption.

The totality of requests on crustaceans and products thereof (5.5%) involved shrimps products, in which undeclared addition of water was detected. This kind of violation is categorised as adulteration (substitution of ingredients). Similarly, all requests for cephalopods and products thereof (4.9%) concerned the same issue, in this case regarding products sold and labelled as "squid".

Notifications on plant protection products remained stable, involving mainly (9) illegal trade of substances within the EU, followed by unapproved composition or use.

Fig.13: FF notifications by agri-food fraud categories and subcategories
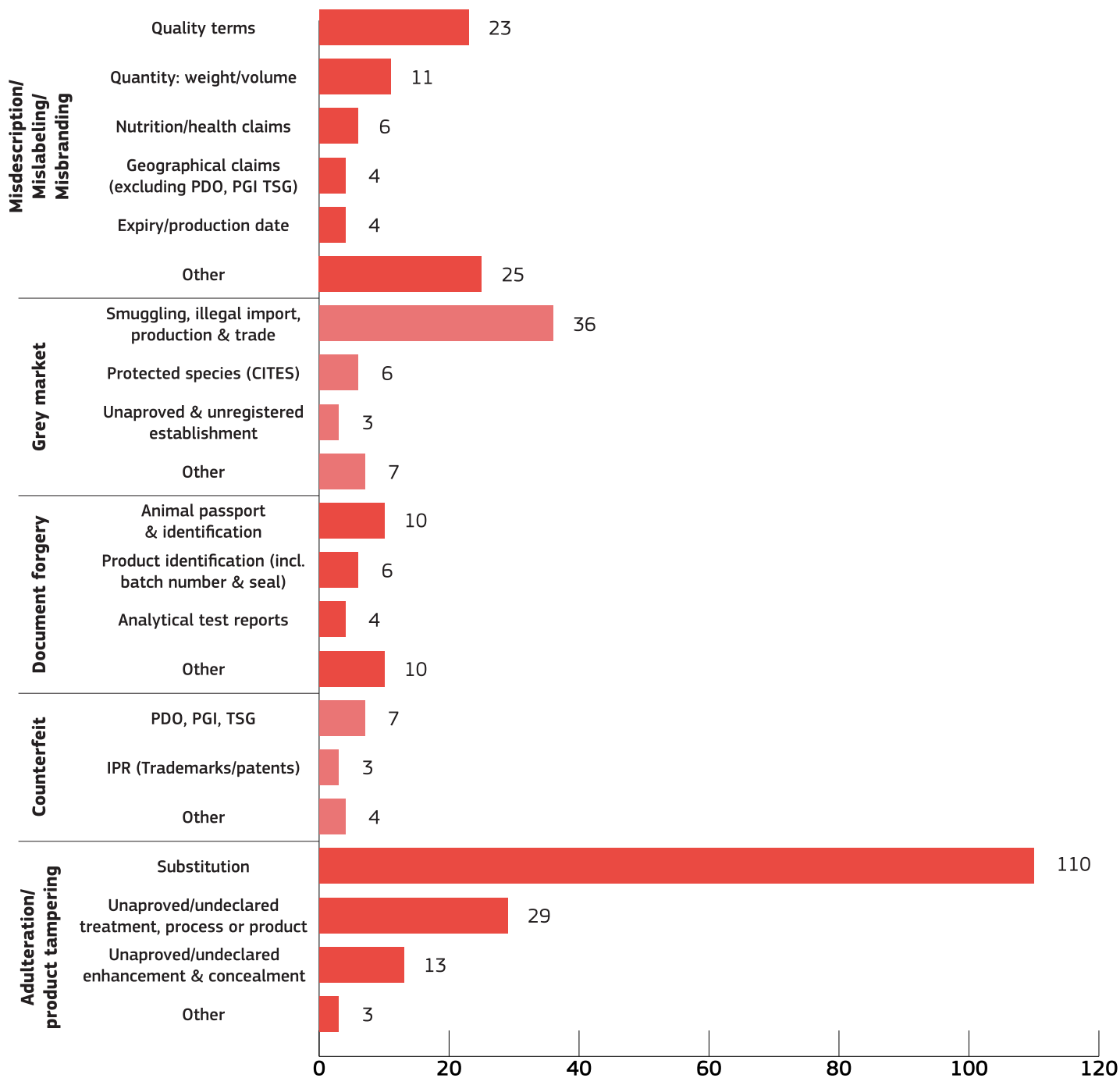
In 2022, the **top reported category** was **adulteration/product tampering**, reaching 47.8% of the total FF notifications. According to the internal definitions of the FFN for agri-food fraud, such category indicates the "Addition of a foreign or inferior quality substance or element; by replacing a more valuable substance or element with less valuable or inert ingredients, so that they no longer match the implicit or explicit claims associated with the agri-food product". This concerned cases of substitution (110) for honey and royal jelly, cephalopods crustaceans and products thereof. The second most reported fraud subcategory was unapproved/undeclared treatment, process or product (29) including a broad range of products such as dietetic foods, food supplements and fortified foods, fish and fish products and non-alcoholic beverages.

Misdescription/mislabeling/misbranding ranked second (22.5%) with cases on the "placing of explicit false claims or distorting the information on the label/packaging". This covered a wide variety of matters ranging from false quality terms (23) or misleading weight declaration of a product (11) to unauthorised nutrition and health claims (6).

Grey market (16.1%), defined as the "production, theft, and diversion involving unauthorised sales channels (traceability issues)", involved mainly notifications on smuggling, illegal import, production and trade (36) of live animals, followed by the trade of plant protection products and dietetic foods, food supplements and fortified foods.

Document forgery (9.3%) concerns "the process of creating, adapting, altering, misrepresenting or imitating documents such as certificates, passports, analytical test reports, declarations of compliance and other identification, administrative documents". This was generally linked to the forgery of animal passports and identification documents (12) or of product identification means such as batch numbers (6).
Live animals (14) and meat and meat products (other than poultry) (4) were the most reported categories for this violation.

Lastly, **counterfeit** represented 4.3% of the cases and is defined as "Intellectual Property Right (IPR), including any aspects of the genuine agri-food product or packaging being replicated, for instance the process of copying the brand name, packaging concept or processing method for economic gain". Among the notified cases, 7 of them were related to Protected Denominations of Origin (PDO) and Protected Geographical Indications (PGI) (such as cava labelled as Champagne). Another 3 notifications concerned IPR infringements regarding chocolate, tea and a plant protection product.
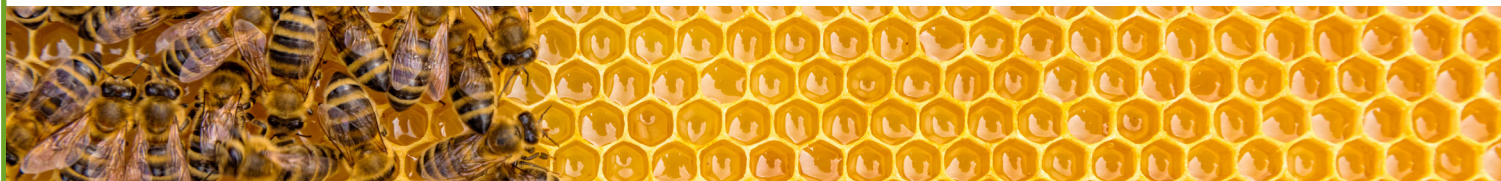
3.3.1. EU coordinated action "From the Hives"

The EU Coordinated action to deter certain fraudulent practices in honey "**From the Hives**" was initiated in October of 2021. It was coordinated by the Directorate General for Health and Food Safety (DG SANTE) and implemented by the members of the FFN. It also received analytical assistance from the JRC and investigation support from OLAF. The action itself aimed at gathering intelligence on the incidence of non-conforming honey imported into the Union through sampling and analysis and led targeting further investigations within the EU.

The coordinated action confirmed the initial assumption that a significant part of honey imported into the EU is suspicious of not complying with the provisions of the "Honey Directive" (46% based on 320 samples). This rate was considerably higher than the one obtained in 2015-17 (14%).

The highest absolute number of suspicious consignments originated from China (74%), although honey originating from Turkey had the highest relative proportion of suspicious samples (93%). Honey imported from the United Kingdom had an even higher suspicion rate (100%), likely the result of honey produced in other countries and further blended in the UK before its re-export to the EU.

Interestingly, 57% of the exporters were flagged as having exported honey consignments suspicious of being adulterated with extraneous sugars while on the other end 66% of the operators imported at least one suspicious consignment. To date, 44 EU operators have been investigated and 9 have been sanctioned.

3.3.2. EU coordinated action "Illegal trade of Cats and Dogs"

On 1 July 2022, the EC launched the **EU Coordinated Control Plan on the illegal trade of pets.**

Since then, 197 pet fraud notifications were created in iRASFF. The action is currently ongoing and will end in the second half of 2023. Reported cases represent serious breaches, predominantly forgery of documents (providing false information on the age, origin, or rabies vaccination status), illegal transports of pets too young to travel, shelters being used as covers for illegal movements of bred dogs, trafficking of material used for fraud, and misuse of TRACES documents.

The action aims at protecting the health of pet animals and public health (rabies, leptospirosis, etc.) by detecting irregularities and falsification of the official documents (passports, rabies test reports and health certificates) and identifying animal trade disguised as non-commercial movement, both at borders and later within the EU. It also intends to deter fraudsters involved (breeders, traders, transporters, veterinarians, laboratories), who profit from the unfair economic advantages of undeclared activities.

The success of the action lies in the enforcement, multi-faceted data collection and well organised exchange of information between different services. To strengthen controls at the border, with good collaboration in Member States and with DG TAXUD, the information and guidance are shared with designated Border Control Posts BCPs and custom officers. In cases bearing a criminal aspect, DG SANTE works closely with EUROPOL and the leader of the EMPACT action on the illegal trade of dogs.

For the first time, European Animal Welfare Associations were invited to take part in the control action coordinated by DG SANTE. Their main tasks in this regard are whistle-blowing – reporting of the suspicious activities noted by animal health organisations in Member States.

3.4. Suspicions of fraud in AAC and RASFF notifications

The EC screens all the notifications created in iRASFF on a weekly basis in order to identify potential intentional violations of the EU agri-food chain legislation, which may have remained unnoticed, or which require coordination and follow-up at EU level. These cases are highlighted to the competent authorities, that are then requested to provide clarifications or carry out appropriate fraud investigations. In 2022, this regular screening of information allowed the EC to identify suspicions of fraud in 1 168 RASFF and 530 AAC notifications.

In line with 2021, the detection of pesticides that are not approved in the EU in fruits and vegetables were the most common suspicious cases detected for non-compliances (22.1%) and RASFF (40.6%). Most of these goods originated from non-member countries, where the legislation is different and may allow such treatments. At European level, these substances are instead not approved and rather a signal of fraudulent practices.
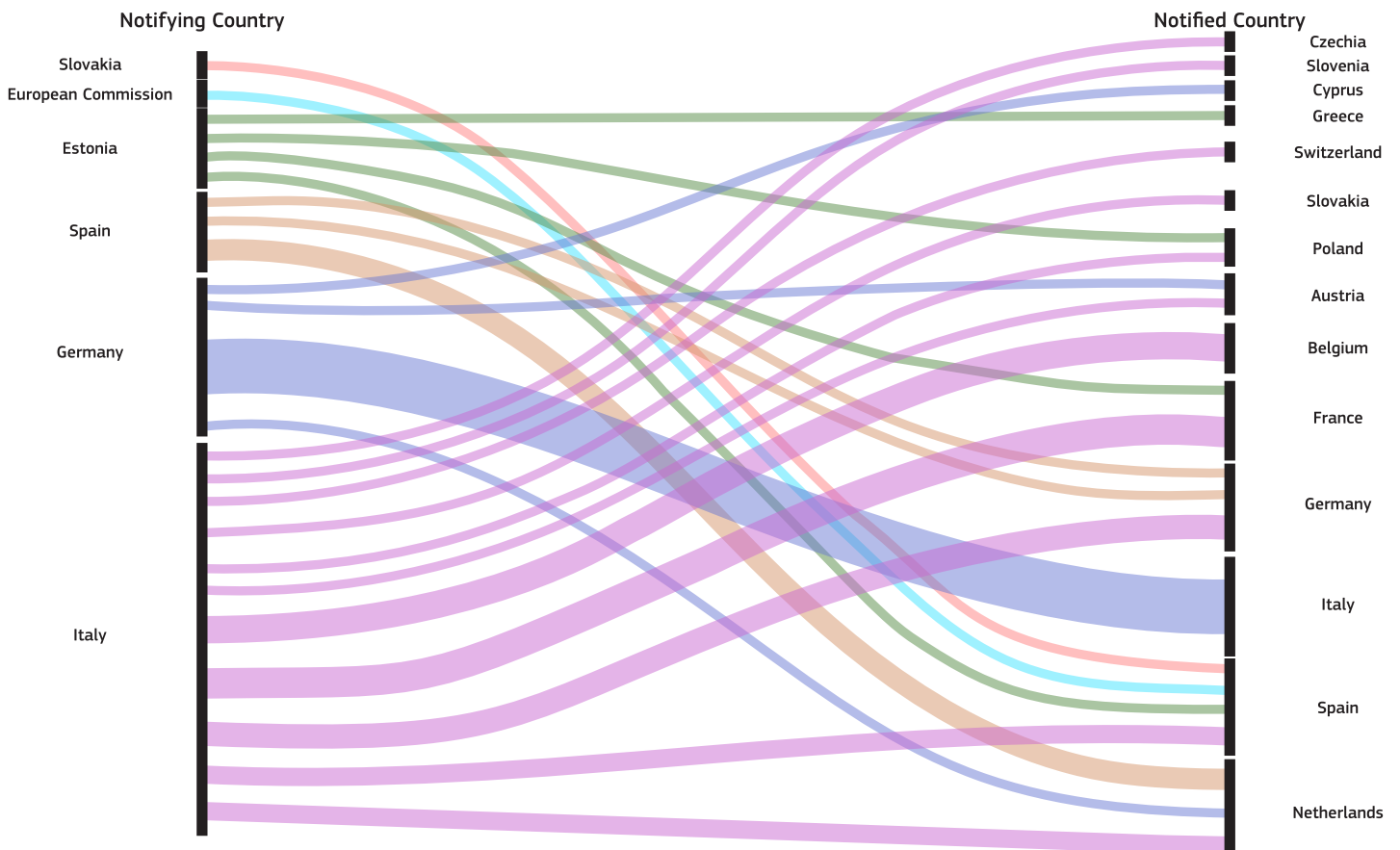
Fig.14: AAC notifications with a suspicion of fraud by agri-food fraud categories and sub-categories
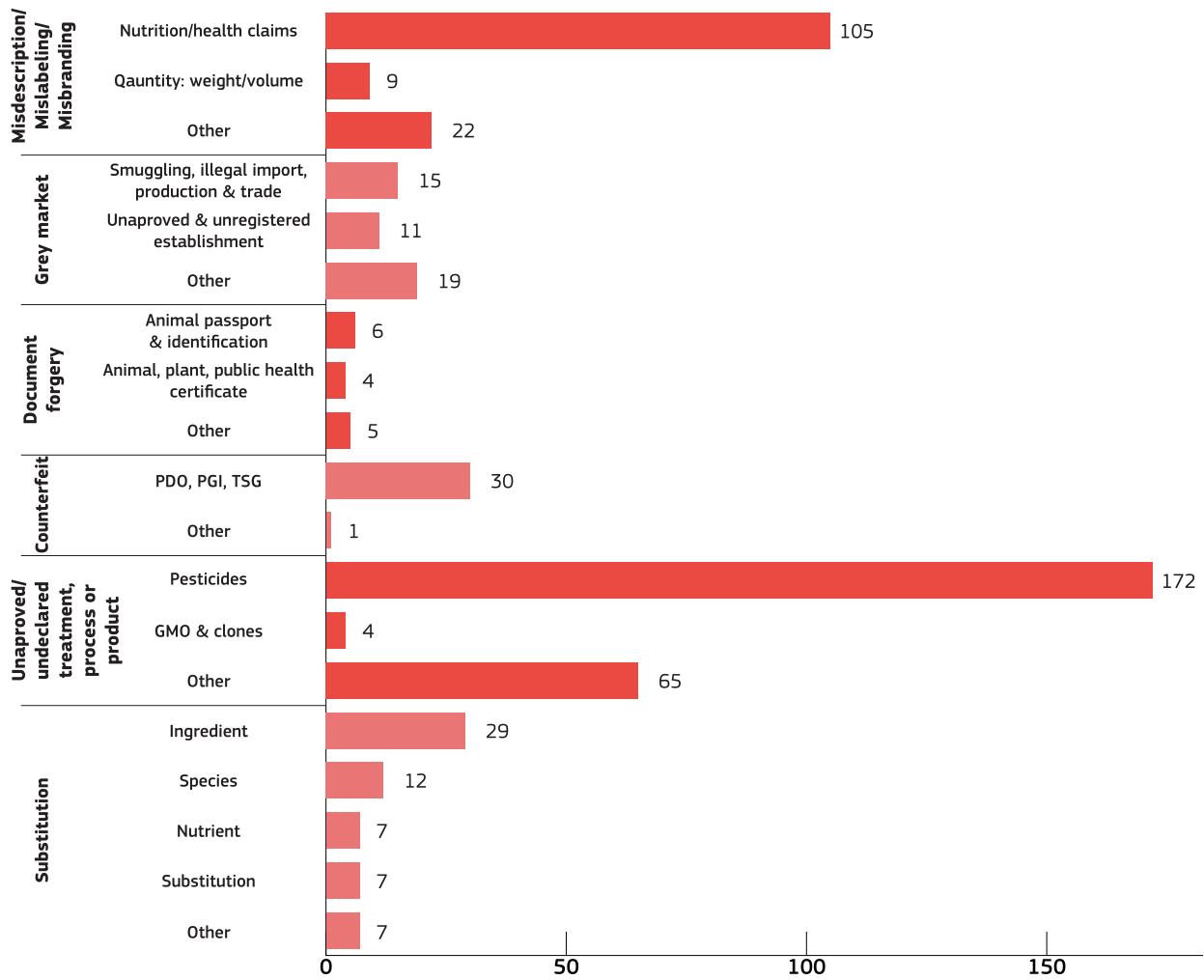
3.4.1. Fraud suspicions on Geographical Indications (GIs)

Fig.15: Notifications on GIs by notifying organisations and notified countries

In the course of 2022, 37 cases (30 AAC and 7 FF notifications) were received on PDO and PGI with fraud suspicion elements. Fig. 15 shows the relationships between top reporting organisations and most notified countries. Italy created 54% of the requests, followed by Germany and Spain.

Fig.16: Notifications on GIs by product categories
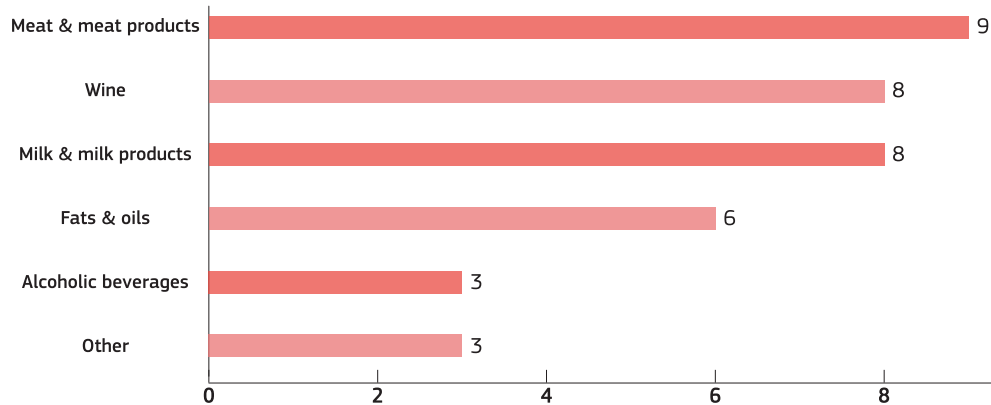
As shown in fig. 16 the most reported product category was meat and meat products (24.3%, e.g. Prosciutto di San Daniele PDO-IT-0065 and Jabugo PDO-ES-0009), followed by wines (21.6%, e. g. Prosecco PDO-IT-A0516), and milk and milk products (21.6%, e.g. Parmigiano Reggiano PDO-IT-0016).

Fig.17: Notifications on GIs by outcome of investigations and measures taken by notified country
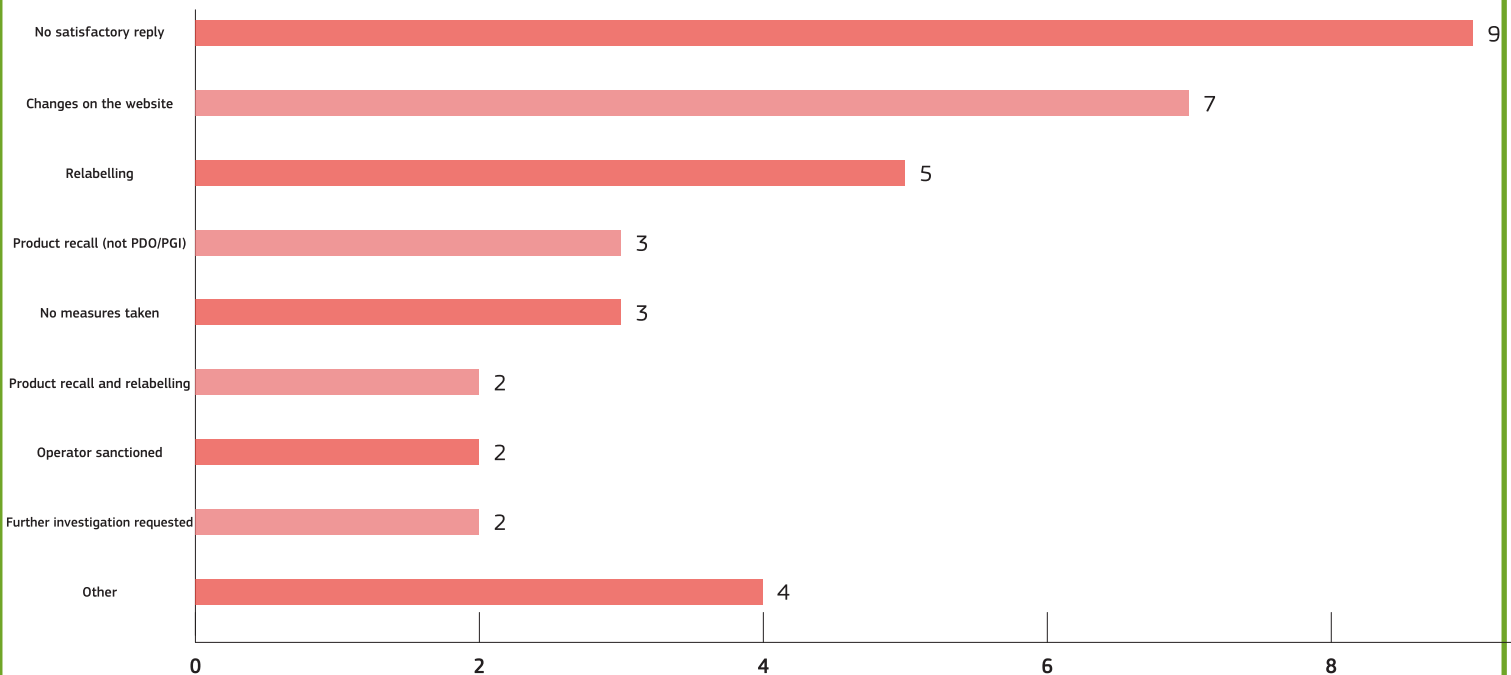
Focusing on the type of requests, the majority of notifications concerned the verification of PDO/PGI denominations (56.7%), followed by goods with non-compliant compositions with product specifications (18.9%) and allusions to PDO/PGI products (16.2%).

Notifications on unregistered operators, unauthorised ingredients and absence of the absence of Union symbols established to publicise GI products under Regulation No 1151/2012 were also received (2.7% each).

Fig 17 shows the outcome of investigations and measures taken by the notified country. In 59.5% of cases investigations revealed that the product was not a GI, leading mainly to changes to the advertisement of the e-platform (7 notifications) or the relabelling of the product (5). In 16.2% the product was instead found to be a GI, and in 19% of cases the information shared within the FFN was not conclusive.

3.4.2. Fraud suspicions on feed

In 2022, 17 FF notifications were transmitted concerning feed. In addition, 167 AAC notifications (27% linked to suspicion of fraud) and 234 RASFF notifications (12% highlighted as bearing suspicions of fraud) were shared on feed.

Fig.18: Agri-food fraud categories set out against product categories, set out against notifying country and origin country for feed notifications with a suspicion of fraud
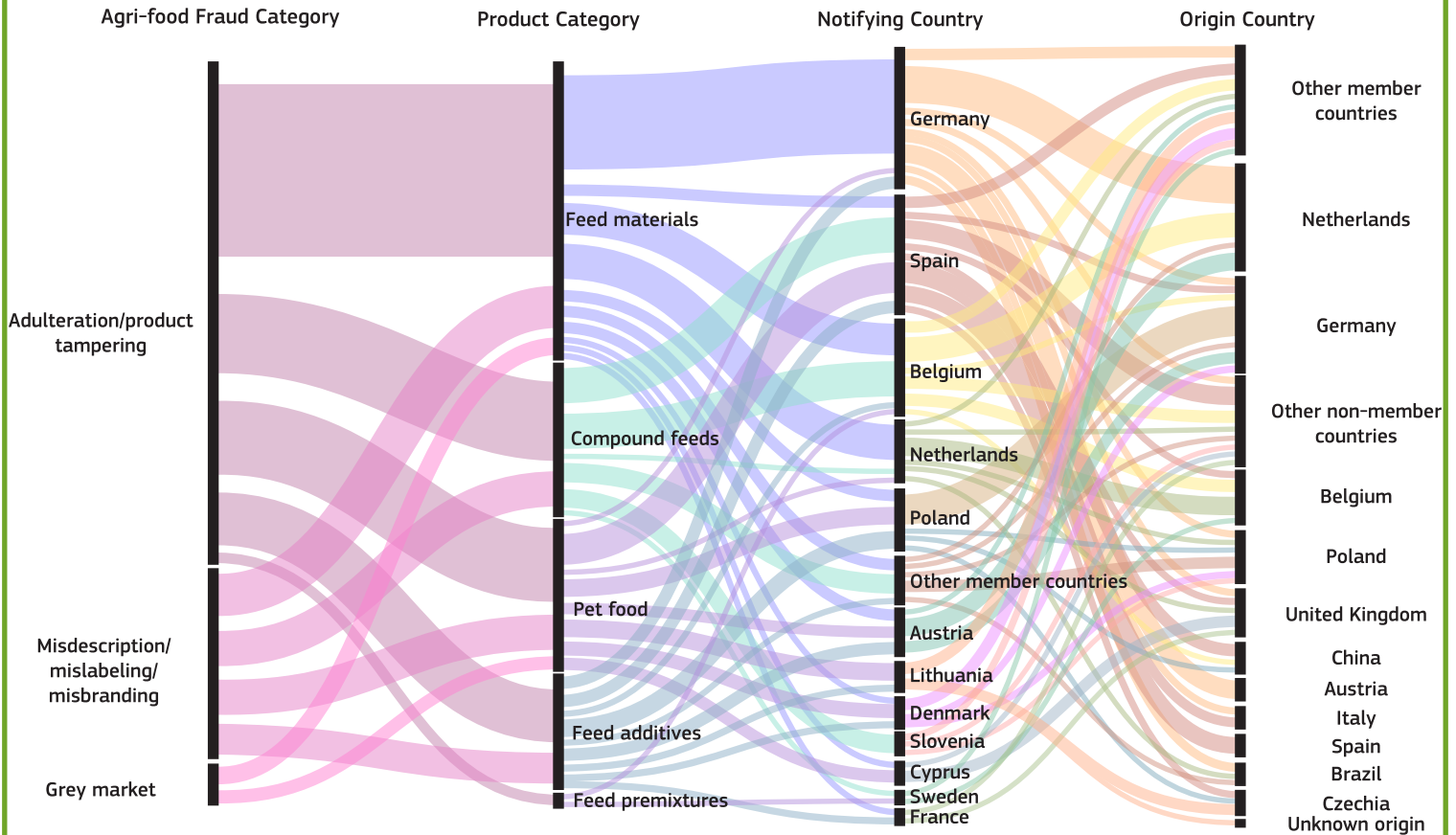
Considering only the notifications on feed with fraud suspicion elements, the most frequently reported product categories were feed materials, followed by pet food and compound feed.

Germany, Spain and Belgium were the most notifying country, while the Netherlands and Germany were the most reported country of origin.

As presented in fig.18, 3 were the agri-food fraud categories linked to them: adulteration/product tampering, misdescription/mislabeling/misbranding and grey market. It is worth mentioning that fig.18 demonstrates a relationship only between two sides, not throughout the whole diagram.

Out of 61 notifications related to adulteration/product tampering 87% were about unapproved/undeclared treatment, process or product, while out of 24 notifications related to misdescription/mislabeling/misbranding 83.3% were about nutrition/health claims. Taking a more in-depth look at unapproved/undeclared treatment, process or product, 62% of notifications were about unauthorised additives and 38% were about unauthorised pesticides. The most reported unauthorised additives were nutritional additives (29.7%, i.e. vitamins, amino acids, trace elements), followed by technological additives (24.3%, i.e. antioxidants, acidity regulators, silage additives) and sensory additives (21.6%, i.e. colourants, flavours). The most common pesticides reported were instead chlorpyriphos (35%) and ethylene oxide (20%).

3.4.3. Communication with non-EU countries on fraud suspicions

The EC regularly contacts non-EU countries concerning notifications with a suspicion of fraud (RASFF, AAC, FF). The competent authorities are thereby requested to conduct investigations, trace similar products sold to the EU, and provide information on the measures taken to guarantee the prevention and control of fraudulent or deceptive practices throughout the agri-food chain. This plays a pivotal role in cross-border cooperation to fight fraud.

Whereas until 2021 the EC relied exclusively on official letters to interact with Third Countries about these matters, 2022 marked the start of a new approach of communication. iRASFF allows to share the information directly with non-EU countries for RASFF notifications. To fully exploit the existing IT tools, the EC has shared standardised messages highlighting a fraud suspicion in iRASFF, allowing to liaise with Third Countries more efficiently and consistently. Overall, in 2022 this led to an increase of 173% of follow-ups created by the EC compared to 2021.

As most communications with non-EU countries concerning fraud suspicions took place via iRASFF, for the general figures on the reply rate of third countries please see fig.5.

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