European Commission

RASFF

The Rapid Alert System for Food and Feed

Annual Report 2020

Health and Food Safety

RASFF
Annual Report 2020

RASFF – The Rapid Alert System for Food and Feed – Annual Report 2020

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Luxembourg: Publications Office of the European Union, 2021

Print	ISBN 978-92-76-34376-9	ISSN 1830-7302	doi:10.2875/366175	EW-AC-21-001-EN-C
PDF	ISBN 978-92-76-34377-6	ISSN 2363-0965	doi:10.2875/259374	EW-AC-21-001-EN-N

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Acronyms used in this report:

AAC	Administrative Assistance and Cooperation System
ACN	Alert and Cooperation Network
ALARA	As Low As Reasonable Achievable principle
DG SANTE	The Commission's Directorate-General for Health and Food Safety
EC	European Commission
ECDC	European Centre for Disease Prevention and Control
EEA	European Economic Area
EFSA	European Food Safety Authority
EPIS-FWD	Epidemic Intelligence Information System for food- and Waterborne Diseases and zoonoses of ECDC
EU	European Union
EWRS	Early Warning and Response System
FFN	Food Fraud Network
IMSOC	Information Management System for Official Control
INFOSAN	FAO/WHO International Food Safety Authorities Network
iRASFF	RASFF's online platform
IT	Information Technology
JNS	Joint Notification Summary
MRL	Maximum Residue Levels
OCR	Official Control Regulation
OJ	Official Journal
RASFF	Rapid Alert System for Food and Feed
ROA	Rapid Outbreak Assessment
SCP	Single Contact Point
TRACES	Trade Control and Expert System
TSEs	Transmissible Spongiform Encephalopathies
UK	United Kingdom
UN	United Nations

Introduction

2020 was another year of change for the Rapid Alert System for Food and Feed (RASFF). Regulation (EU) 2019/1715 had entered into force mid December 2019, implementing the Information Management System for Official Control (IMSOC)[1]. For RASFF it meant merging the Administrative Assistance and Cooperation (AAC) network with the RASFF network into a whole new entity: the Alert and Cooperation Network (ACN).

This integration with AAC allows combining investigations on non-compliances in RASFF notifications or easily escalating non-compliance notifications to RASFF notifications. The fundamental difference between non-compliance and RASFF notifications takes its origin in their different legal basis: Regulation 178/2002 ("General Food Law") for RASFF versus Regulation 2017/625 ("Official Controls Regulation") for AAC. A non-compliance notification is made by a network member who seeks assistance from another member in its investigation and shares the notification for that purpose with that member. The notifying member can ask specific questions to that member. While all the above is possible for RASFF notifications as well, a RASFF notification requires "escalation". Further to its validation by the European Commission, in accordance with Regulation (EU) 2019/1715, the notification becomes available to all network members.

In general, RASFF notifications for imported food regarding unauthorised pesticides have soared. In the past few years, authorisations for several much-used pesticides were not renewed, following a precautionary approach ensuring that no adverse effects can take place not only on public health but also for the environment and biodiversity, in line with the new Farm to Fork Strategy calling for a more sustainable way of producing our food.

In 2020, RASFF was in particular confronted with a major food contamination incident when in September Belgium reported high levels of an unauthorised pesticide, ethylene oxide, in sesame seeds from India, a substance for which a Maximum Residue Limit of 0.05 ppm is set in the legislation for that commodity. It resulted in unprecedented activity in RASFF exchanging information on findings of ethylene oxide, identifying batches of products involved and tracing their distribution.

[1] Regulation (EU) No 2019/1725 laying down rules for the functioning of the information management system for official controls and its system components ('the IMSOC Regulation'), *OJ L 261, 14.10.2019, p. 37-96*

RASFF and AAC annual report 2020

Integration of the Administrative Assistance and Cooperation network with the Rapid Alert System for Food and Feed

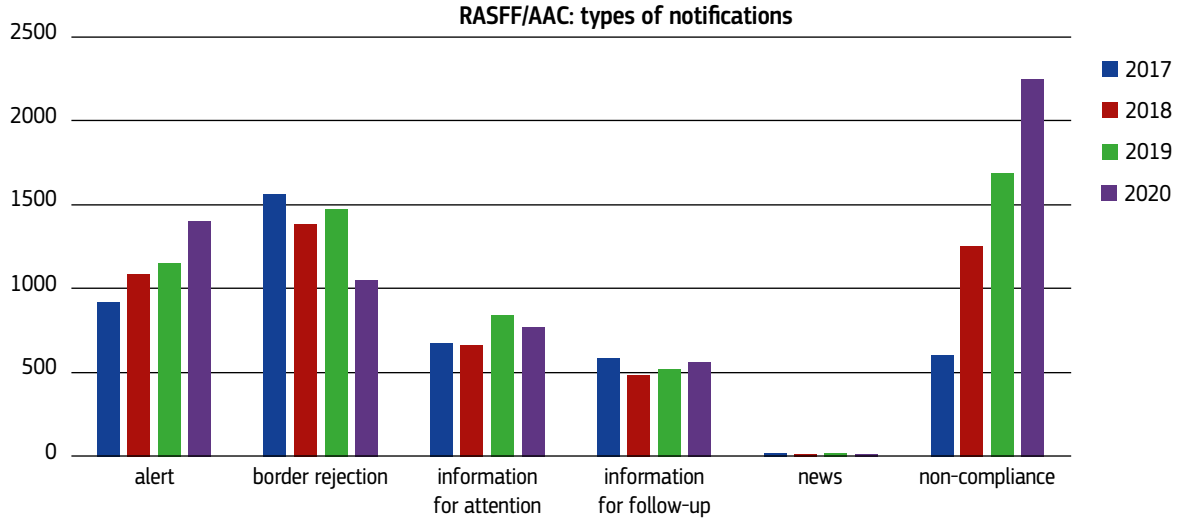
Although notified within the same electronic system, iRASFF, the AAC non-compliance notifications and RASFF notifications follow two different workflows thanks to a feature specifically developed for this purpose in 2019: the "conversation module". Through the conversation, the notifying country can share its notification with its peers and make requests for assistance. With the rules of the IMSOC Regulation applying from 14 December 2019, the integration between RASFF and AAC is now complete.

In the context of a non-compliance notification, the notifying country can make a request to another country, thereby sharing the notification with only that country and with the Commission. Any participant to the notification can make requests to other countries thereby sharing the notification with these and enlarging the group of countries that cooperate on the notification. A RASFF notification can benefit from the same cooperation mechanism.

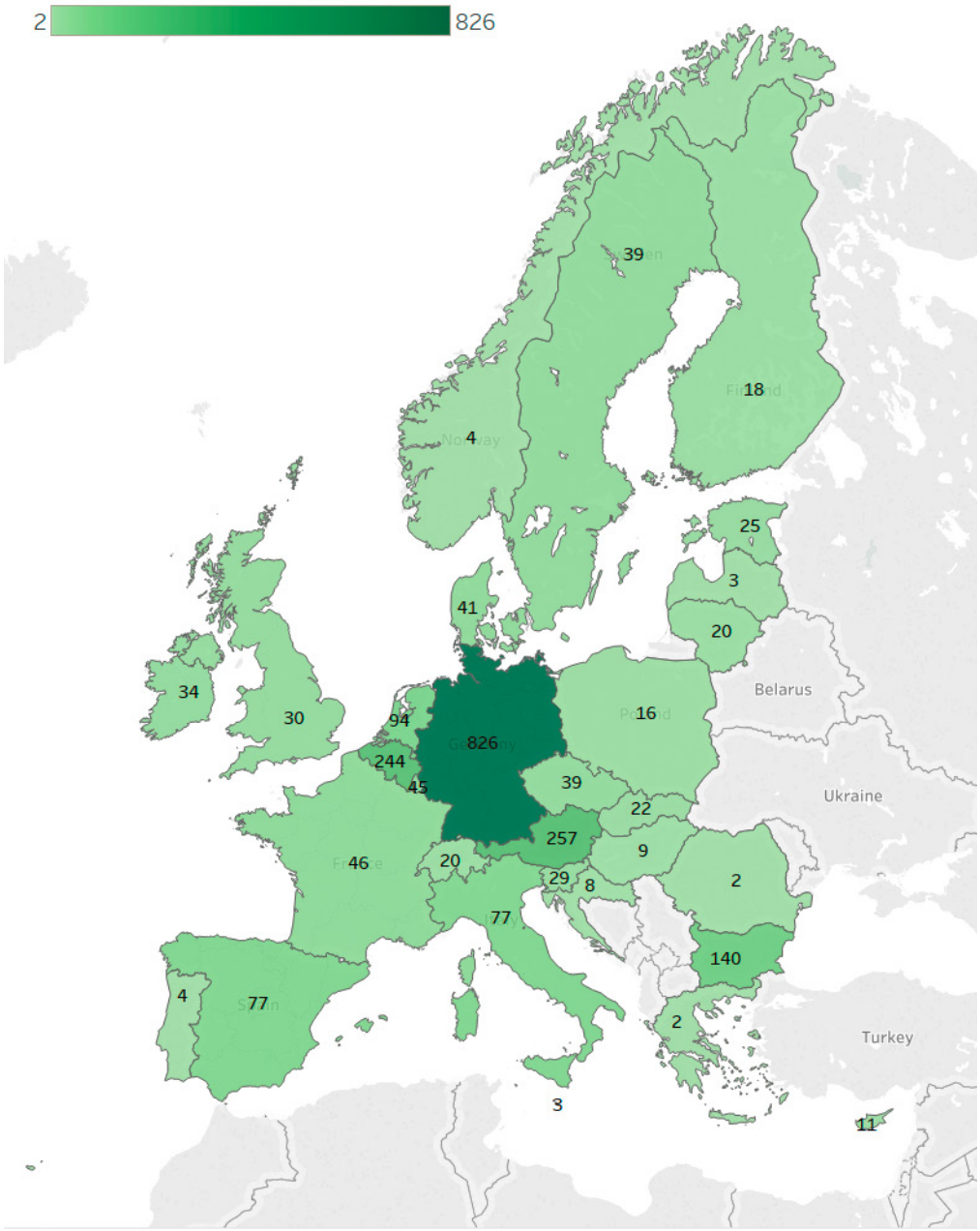
AAC notifications in 2020

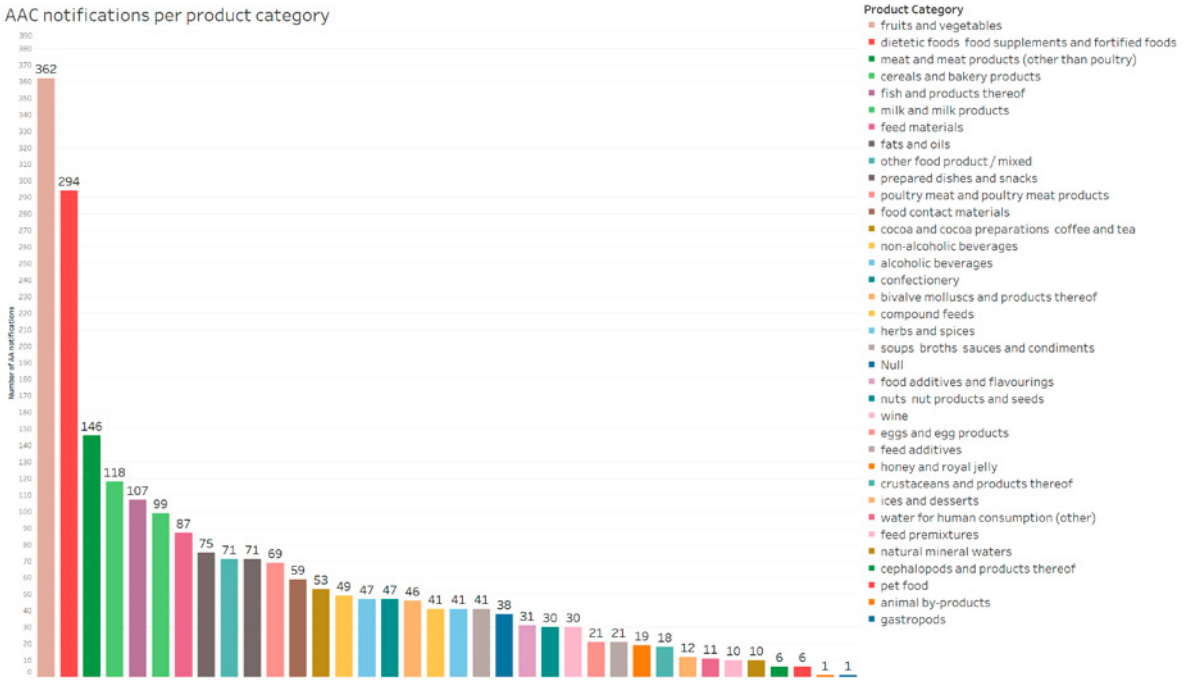
The evolution in the number of notifications in RASFF and in AAC between 2017 and 2020 reveals a rapid rise to significance for the non-compliance notifications reported through the AAC. Now that integration into iRASFF (the online platform of the RASFF network) is complete, the AAC network benefits from its new feature (the conversation module) but also from the already long established procedure in iRASFF using follow-up notifications.

The use of the system has remained similar in 2020 as in 2019 in terms of the number of non-compliance notifications per notifying country. Germany has submitted more than three times the number of non-compliances created by Austria, the latter having clearly used the system much more intensively than all other Member States.



Non-compliance notifications per notifying country in 2020

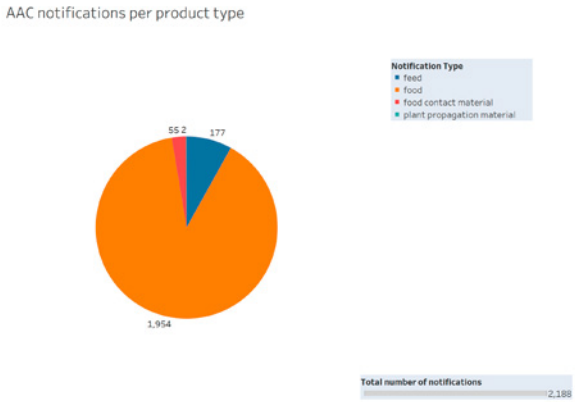


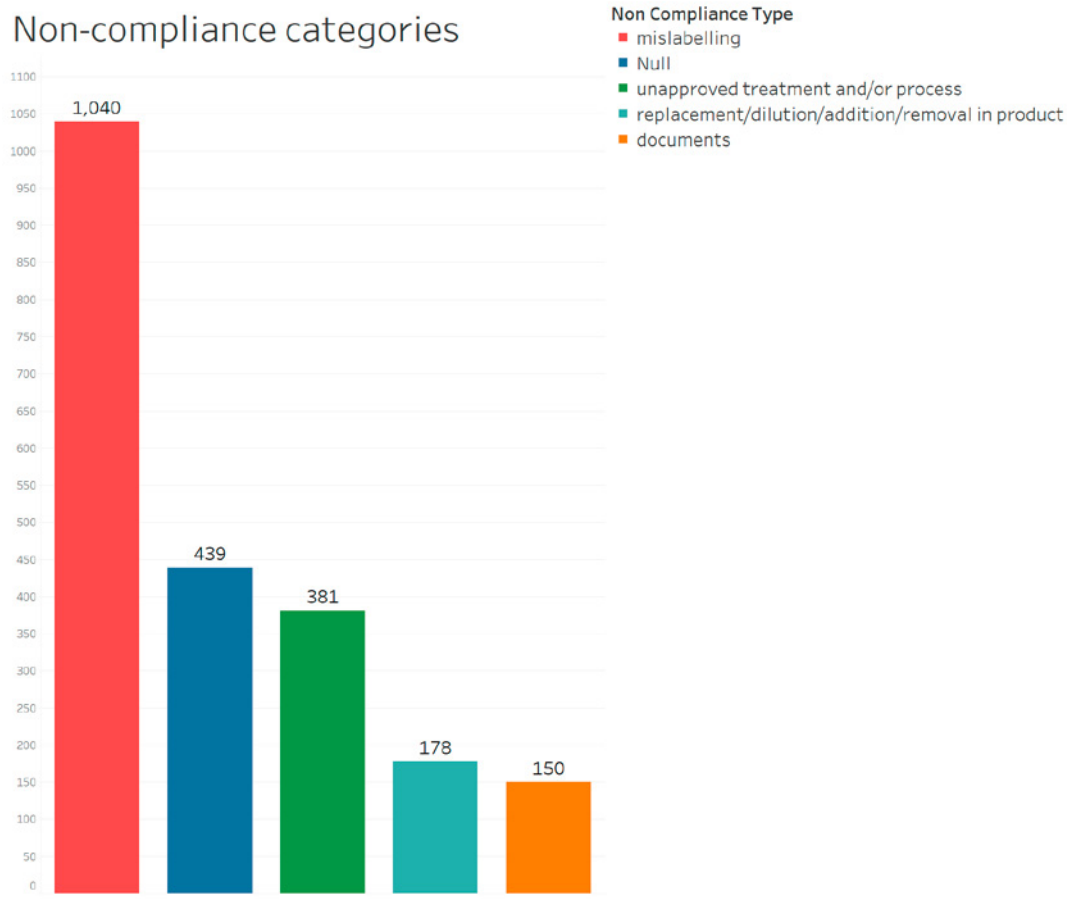


The most notified category is in 2020 “fruits and vegetables”. This is due to increased notifications from Bulgaria on pesticide non-compliances mainly in produce from Turkey.

Food products remained the most reported ones during 2020.

The chart below shows the number of AAC notifications per type of violation in 2020. Bearing in mind that a notification may relate to more than one violation, the classification of the notifications was done by taking into account the main alleged food law violations reported by Member States. Moreover, Member States can further specify violations outside the categories provided in the system. The most reported type of violation is mislabelling, followed by unapproved treatment and/or process.




Non-compliance categories
Non Compliance Type
mislabelling
Null
unapproved treatment and/or process
replacement/dilution/addition/removal in product
documents
1,040
439
381
178
150

RASFF in 2020

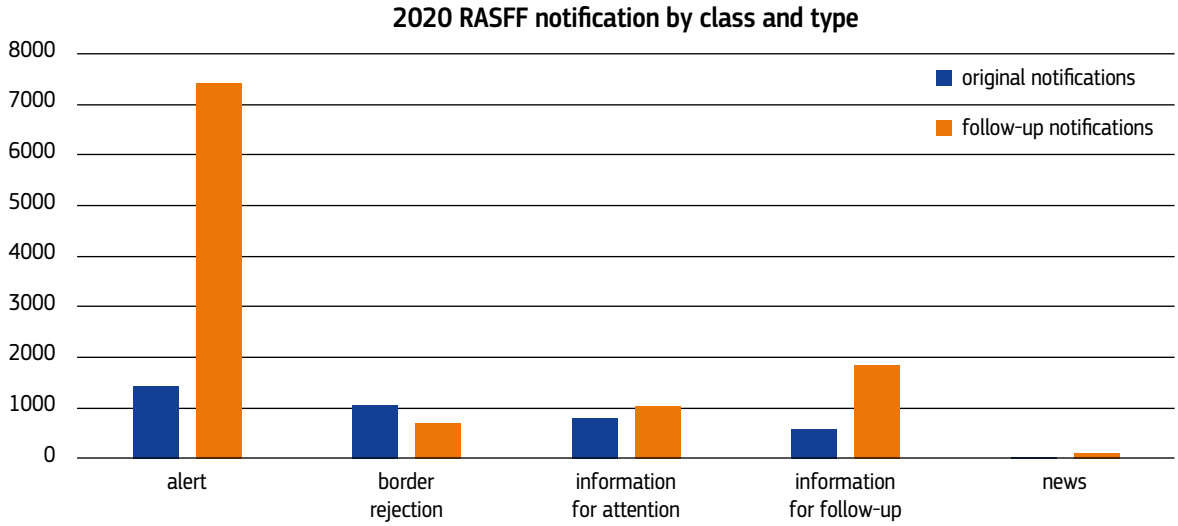
RASFF notifications in 2020

In 2020, a total of 3862 **original notifications** were transmitted through RASFF, of which 1430 were classified as alert, 572 as information for follow-up, 791 as information for attention, 1056 as border rejection notification and 13 as news notification. Compared to 2019, the number of alert notifications, implying a serious health risk of a product circulating on the market, rose by 22%. The increase in alerts is significant for the sixth year in a row. The sharp decline in border rejection notifications (-30%) is most probably reflecting the impact the COVID-19 pandemic has had on global trade more than on the controls carried out themselves.

These original notifications gave rise to 11062 **follow-up notifications**, representing an average of 2.9 follow-ups per original notification. For alert notifications this average rises to 5.2 follow-ups per original notification, proving that cooperation between network members on notifications presenting a significant health risk is stronger than ever before.

The overall figures present a significant decrease of 11% in original notifications compared to 2019 but a 6% increase in follow-up notifications, resulting in a slight overall increase of 1%. It brings the total exchanges in RASFF in 2020 to **14997**, again a number that has never been higher.

In reality however, also the new conversation tool should be considered in evaluating the activity of the network. This tool was introduced in 2019 and produced in its first half year of operation around 2500 conversations. In 2020, more than 14000 conversations were produced, making the conversation tool an overwhelming success. It proves that the integration of AAC in iRASFF through the conversation module has reached its goal in providing Member States with an efficient tool to collaborate on their food safety controls at the various levels foreseen in iRASFF, which currently are: regional, national and European level.

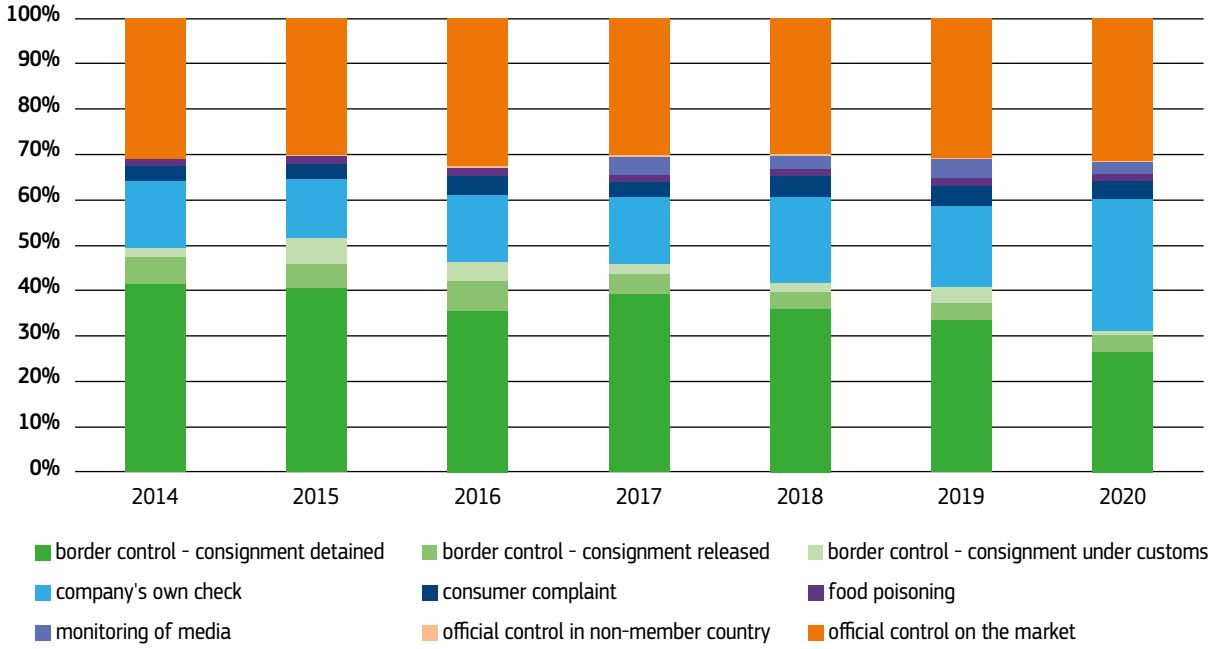


Where do RASFF notifications come from?

The largest category of notifications concerns official controls on the (internal) market[2]. An official control is typically carried out at a business operator (manufacturer, wholesaler, storage, retailer etc.) and involves an inspection and possibly a sample taking for the purpose of analysis. There can however be other triggers for a RASFF notification: the most important ones are company's own-checks, which have gained significantly in importance due to the ethylene oxide incident (see under "Pesticide residues" heading further down in the report). Other particular triggers for RASFF notifications are consumer complaints and food poisoning incidents. There is yet another special type of notification that has emerged strongly over the past few years, identified as "monitoring of media", which mainly points to monitoring of products sold online i.e. e-commerce.

In 2020, only 31% of RASFF notifications concerned controls at the outer EEA borders[3] at points of entry or border posts, a significant decrease following a decreasing trend of the past years that could be due to the impact of the COVID-19 crisis. When a consignment is not accepted for import ("border control – consignment detained") a border rejection notification is made. In some cases, a sample is taken for analysis at the border yet the consignment is not held there but forwarded to its destination under customs' seals ("border control – consignment under customs"). This means that it should remain stored there until the result of the analysis is available. In other cases the consignment is released ("border control - consignment released") without awaiting the analytical result, which means that the consignment needs to be retraced if the result is unfavourable and the product needs to be withdrawn from the market. Therefore, the latter cases lead to alert or information notifications.

RASFF notifications by notification basis



[2] Products placed on the market in one of the member countries including the EEA countries Norway, Liechtenstein and Iceland.

[3] Since 2009, including Switzerland.

RASFF incidents in 2020

RASFF incidents are made up of more than one notification. In order to identify such an incident, the notifications need to have a "strong link" e.g. they share the same upstream traceability for two similar (but not identical) products or they are about identical products but different lots. Findings about the same lot of a product should however preferably be grouped under the same notification with new findings being reported as follow-up notifications.

The following types of incidents are identified:

Accidental or environmental contamination

This incident type involves most contamination events as it fortunately only rarely happens that a contamination is introduced deliberately in the food chain. The nature of the contamination can be either chemical or (micro)biological.

Examples from the 2020 collection:

- Presence of mustard in organic wheat gluten and in products derived from it from the Netherlands, with raw material from an Italian operator. The incident involved three alerts and several derived products. The incident identified the link between the notifications in January 2020, while the original notifications were made in 2019.
- Several incidents concerning ethylene oxide contamination of sesame seeds imported from India, making a link between notifications on sesame seeds and derived products that trace back to the same imported batch(es).

Faulty labelling, processing or storage conditions

This is where an element of the "logistics" chain went wrong and led to risks in the food or feed. Typically, most incidents reported under this type would relate to labelling mistakes leading to undeclared allergens. It could be for example that several notifications about products with undeclared allergens can be traced back to the same labelling defect.

Foodborne outbreak

A foodborne outbreak can be reported in a single RASFF notification or through several notifications linked to one particular outbreak event, in which case an incident of this type is identified.

In 2020, we identified 70 notifications triggered by a food poisoning event. In this report, the term "food poisoning" refers to anything that triggers an acute adverse reaction. Not only pathogenic bacteria or viruses but also chemical contamination, harmful composition of a food or the presence of an allergenic substance that is not labelled, so long as the notifying country has reported that consumers were acutely affected by consumption of the food. There are likely more notifications regarding findings that have acutely affected consumers, but that did not report this explicitly.

From the table above, 43 notifications were linked with foodborne outbreak incidents in 2020. In total, 40 notifications related to foodborne outbreaks in 2020; so most reported foodborne outbreak notifications were part of an incident (note that some 2020 incidents may contain notifications belonging to the previous or following year). From these 40 notifications on foodborne outbreaks, 15 identified *Salmonella* as the (probable) cause, 10 were linked to norovirus, five were about *Listeria monocytogenes* and four about histamine poisoning.

Type of incident	*Number of incidents*		*Number of notifications*	
	2020	2019	2020	2019
Accidental or environmental contamination	30	21	133	58
Faulty labelling, processing or storage conditions	0	2	0	4
Foodborne outbreak	9	2	43	12
Foreign body contamination / physical danger	1	1	2	2
Fraud investigation	0	2	0	4
Hazardous or unauthorised composition	14	21	42	53
Intentional contamination / tampering	0	0	0	0
Lacking or improper documentation	2	0	6	0

In total, five notifications related to a multi-country foodborne outbreak. This is an outbreak where persons have been affected in more than one country. In such event, coordination at the EU level is highly desirable. As soon as a multi-country foodborne outbreak is identified and sufficiently documented, ECDC and EFSA, after consulting the Commission, may decide to launch a joint action or it may be started at the Commission's request. Such joint ECDC-EFSA action can take the form of a Rapid Outbreak Assessment (ROA), which is to be made public, or of a joint notification summary (JNS), which is not made public. A ROA is 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 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. The ROA can be very valuable for RASFF Members to identify the relevant control measures in order to put an end to the outbreak. 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.

The joint notification summary (JNS) is a summary of the state of play of a smaller scale multi-country foodborne outbreak with a brief preliminary assessment made by ECDC and EFSA, shared only in EWRS, EPIS-FWD and RASFF platforms.

Only one multi-country foodborne outbreak identified in 2020 has led to a ROA and none to a JNS. However, older notifications can still become part of a joint investigation based on the identification of the strain involved. The following list of ROA and JNS carried out in 2020 are linked to RASFF notifications as reported below:

ROA in 2020

- Multi-country outbreak of Salmonella Enteritidis infections linked to eggs, third update (17-836, 2018.2615, 2018.3424). Published on 06 February 2020, available here.
- Multi-country outbreak of Salmonella Typhimurium and S. Anatum infections linked to Brazil nuts (2020.3287). Published on 21 October 2020, available here.

JNS in 2020

- Multi-country cluster of Salmonella Dublin infections (made available in RASFF 2020.0711 on 26 February 2020)
- Multi-country cluster/outbreak of Salmonella Agona infections possibly linked to Kebab meat (made available in RASFF 2019.3655 on 17 June 2020)
- Multi-country cluster/outbreak of Salmonella Enteritidis infections possibly linked to poultry products (made available in RASFF 2018.1911 on 16 July 2020)
- Multi-country cluster of *Listeria monocytogenes* ("Omikron 1") linked to salmon products from Lithuania (made available in RASFF 2019.4292 on 25 March 2020 and updated on 16 November 2020)
- Multi-country cluster of *Listeria monocytogenes infections* ("Beta2","Delta1", "Eta5", "Omega5", and "Rho3") linked to salmon products from Poland, France, and possibly Germany (made available in RASF 2016.1290 and in RASFF 2018.3226 on 29 May 2020)

Foreign body contamination / physical danger

This type of incident is reserved for physical hazards. This is typically the case for a foreign body contamination but it can also be about the characteristics of a product leading to a risk, e.g. the addition of gelling additives to mini fruit cups leading to a suffocation risk.

Fraud investigation

These are incidents that could also fall under the other incident types but are given this type to emphasise the (potential) fraud element of the investigation that spans several notifications.

Hazardous or unauthorised composition

In this type of incident, an ingredient or additive lies at the basis of the health risk.

Examples from the 2020 collection:

- 2,4-dinitrophenol (DNP) offered online for sale on the websites buy*****.net and buy******.com: after having notified the dangerous product

DNP, capable of accelerating the metabolism to potentially lethal level, one website was taken offline but the product soon appeared on a very similar website.

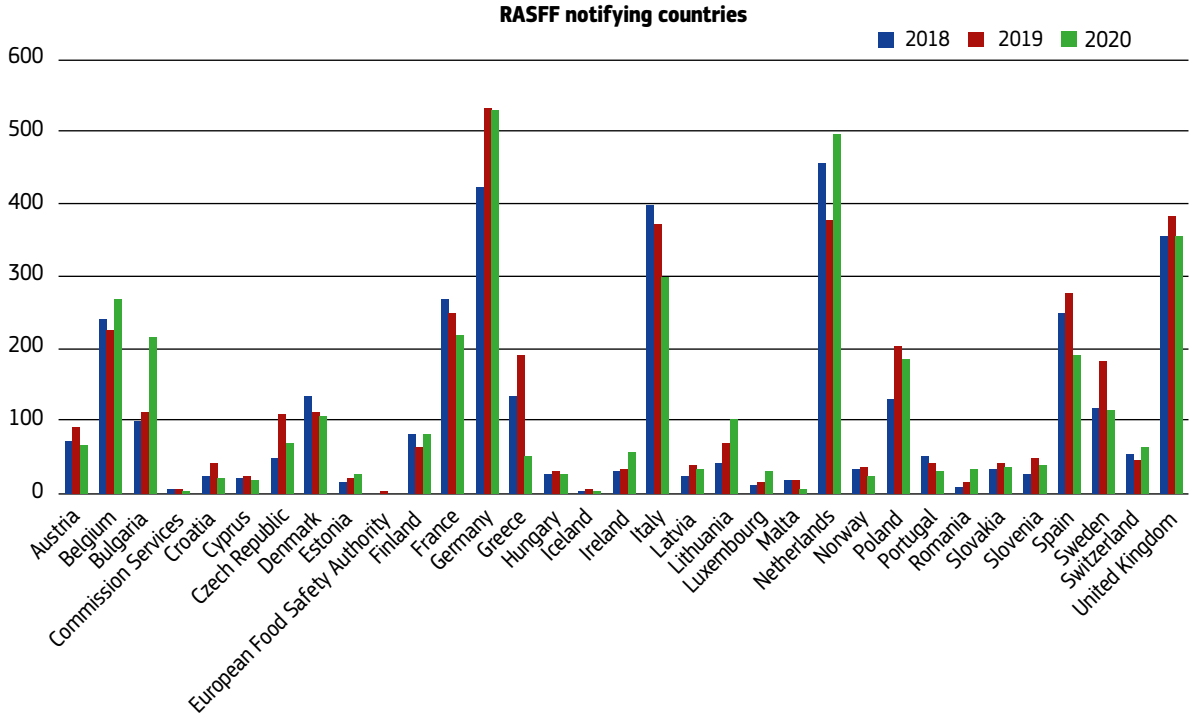
- Attempt to illegally import tableware made from a mix of bamboo fibres, melamine and maize starch manufactured by a Chinese operator and imported by an Austrian company: three border rejections notified by Austria.

Lacking or improper required documentation

This is a new category of incident that concerns a lack of official or other documentation testifying that proper food safety controls were carried out e.g. missing health certificates or traceability information.

RASFF notifications by notifying country in 2018 and 2019

Original notifications by notifying country 2018 - 2020



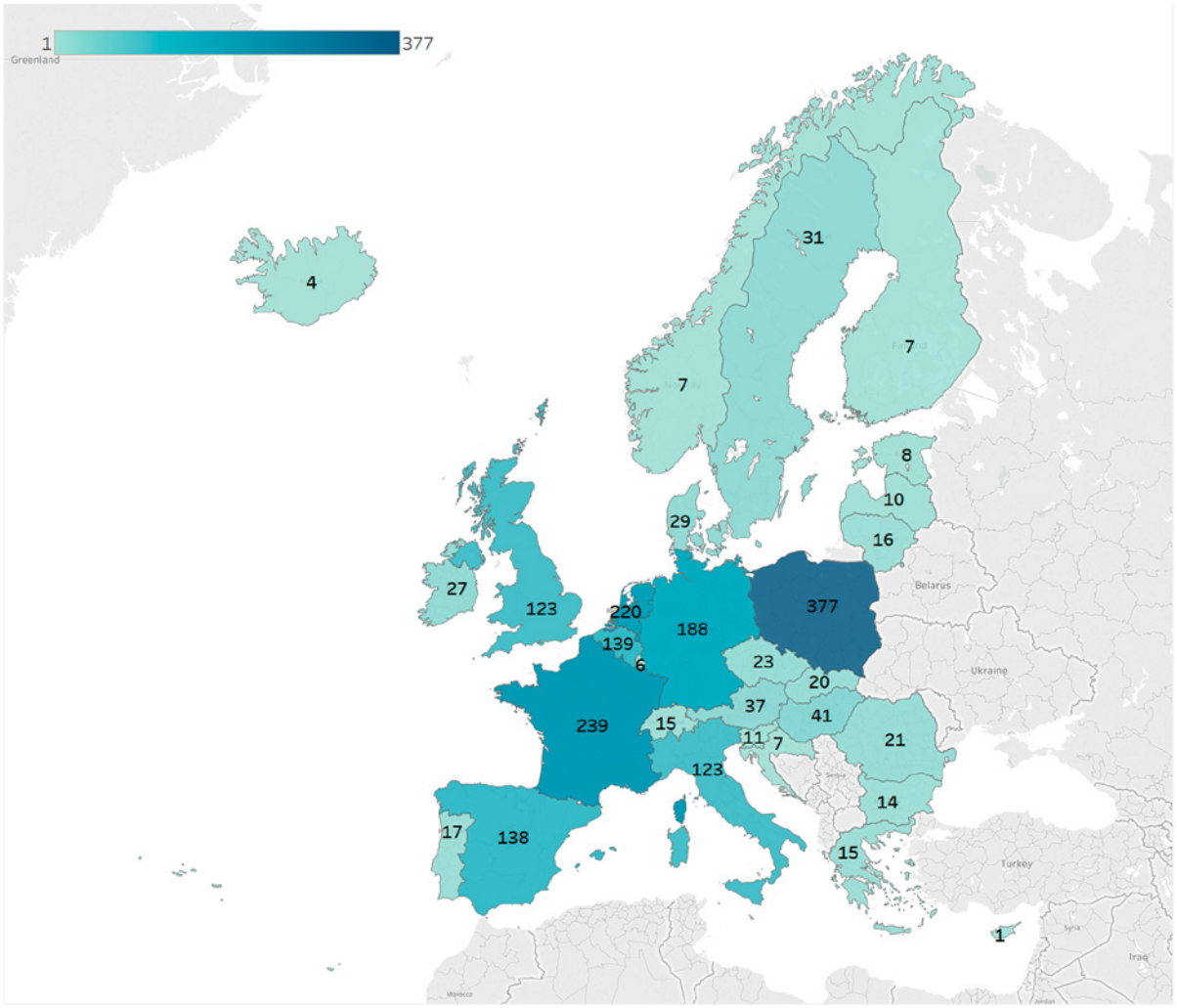
Top 10 number of notifications by notifying country

Number of notifications counted for each combination of hazard/product category/notifying country.

hazard	*product category*	*notifying country*	*notifications*
Ethylene oxide	nuts, nut products and seeds	Netherlands	177
Pesticide residues	fruits and vegetables	Bulgaria	162
Aflatoxins	nuts, nut products and seeds	Netherlands	90
Salmonella	poultry meat and poultry meat products	Poland	70
Salmonella	poultry meat and poultry meat products	Lithuania	63
Salmonella	poultry meat and poultry meat products	France	50
Salmonella	herbs and spices	Germany	49
Salmonella	poultry meat and poultry meat products	Italy	44
Aflatoxins	nuts, nut products and seeds	Germany	42
Ethylene oxide	nuts, nut products and seeds	Germany	36

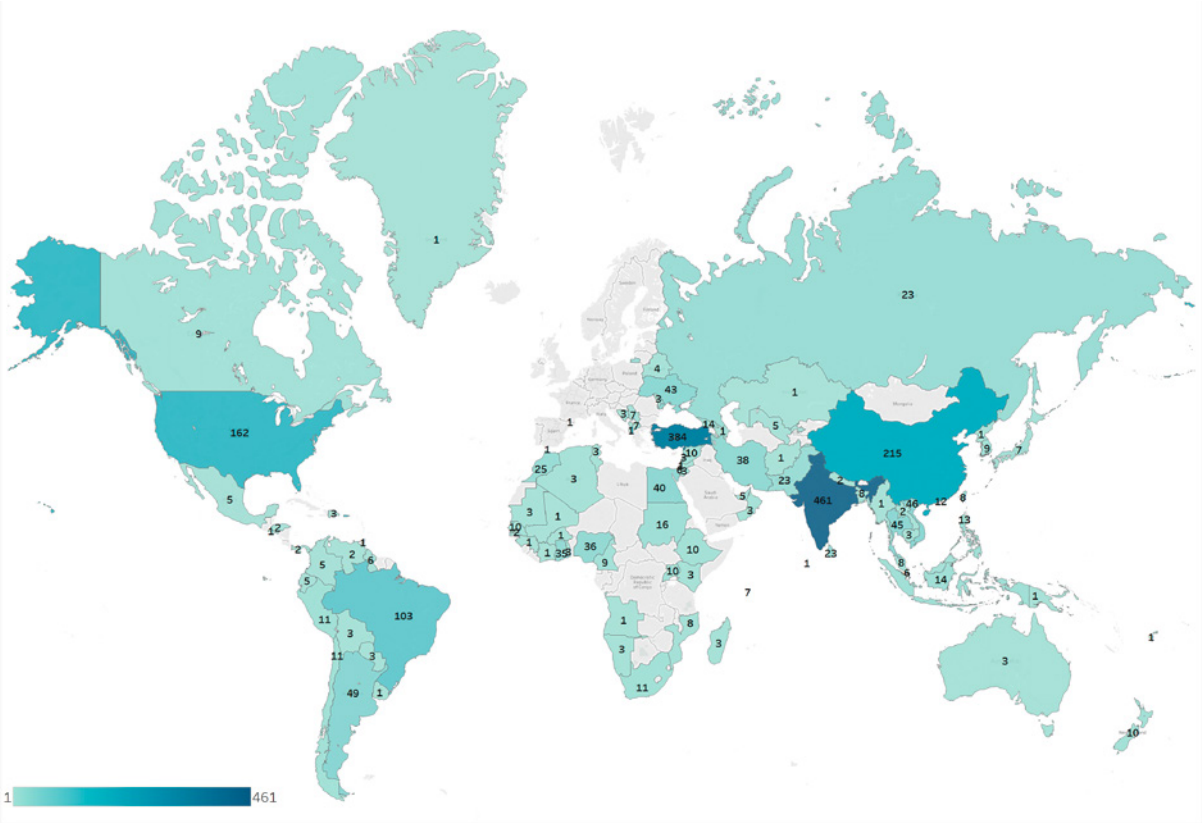
RASFF notifications by country of origin in 2020

Origin member countries in 2020[4]



[4] Member countries of RASFF identified as the origin of the product notified, expressed in number of notifications per country of origin.

Origin non-member countries in 2020



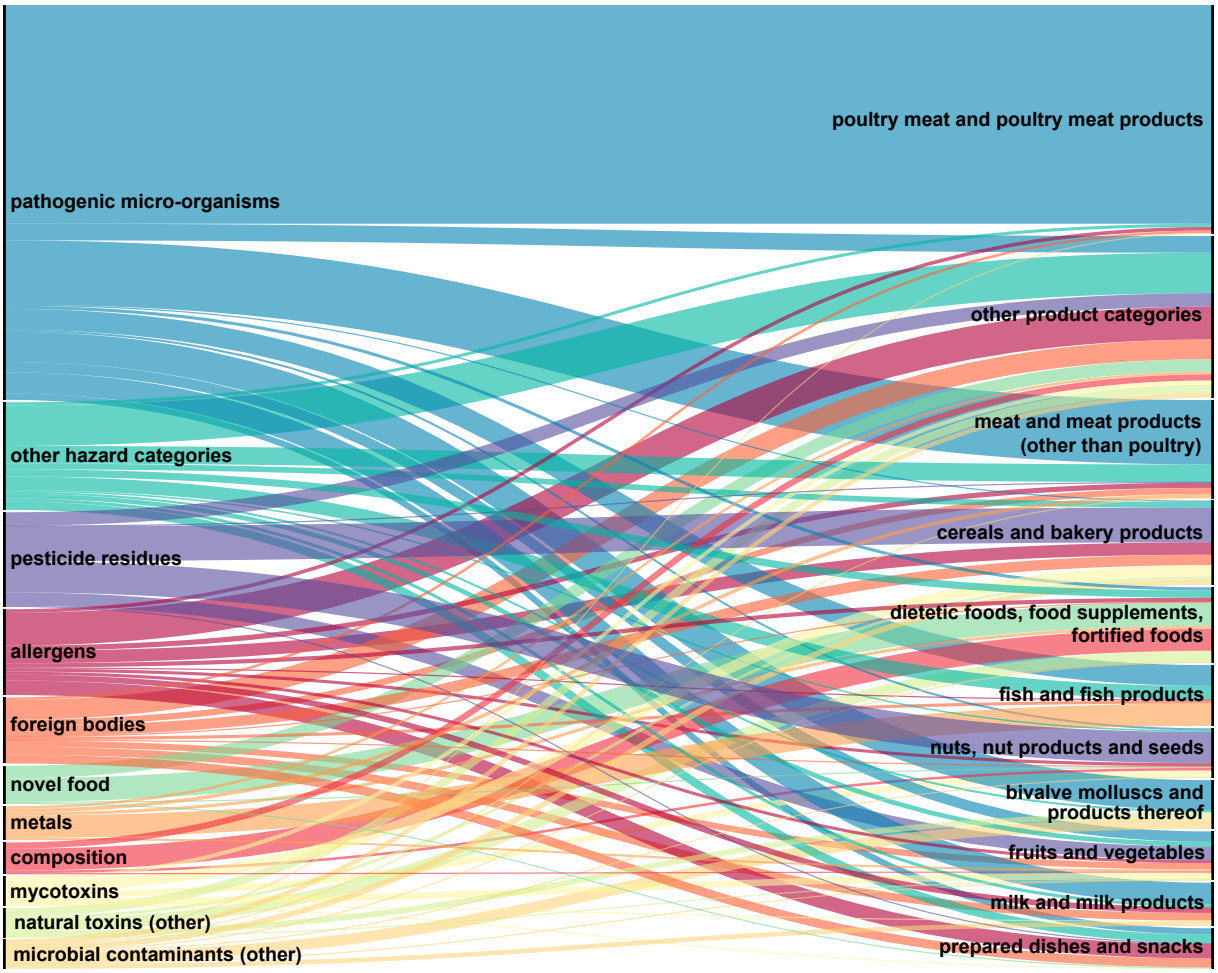
Top 10 number of notifications by country of origin

Number of notifications counted for each combination of hazard/product category/country.

hazard	*Product category*	*Country of origin*	*Notifications*
Ethylene oxide	nuts, nut products and seeds	India	296
Salmonella	poultry meat and poultry meat products	Poland	273
Pesticide residues	fruits and vegetables	Turkey	190
Salmonella	herbs and spices	Brazil	61
Aflatoxins	fruits and vegetables	Turkey	58
Aflatoxins	nuts, nut products and seeds	United States	49
Aflatoxins	nuts, nut products and seeds	Turkey	39
Norovirus	bivalve molluscs and products thereof	France	33
Aflatoxins	Nuts, nut products and seeds	Iran	29
Aflatoxins	nuts, nut products and seeds	Argentina	29

In the following sections, using alluvial diagrams, the most frequently reported hazard and product categories are analysed for food, feed and food contact materials separately. The "top" hazard categories are explored in more detail, while identifying recurrent issues (more than 10 notifications for the same hazard, product and country of origin combination) and operators (operators notified in RASFF three times or more in a three-month period).

2020 top 10 hazard and product categories on food products originating from member countries

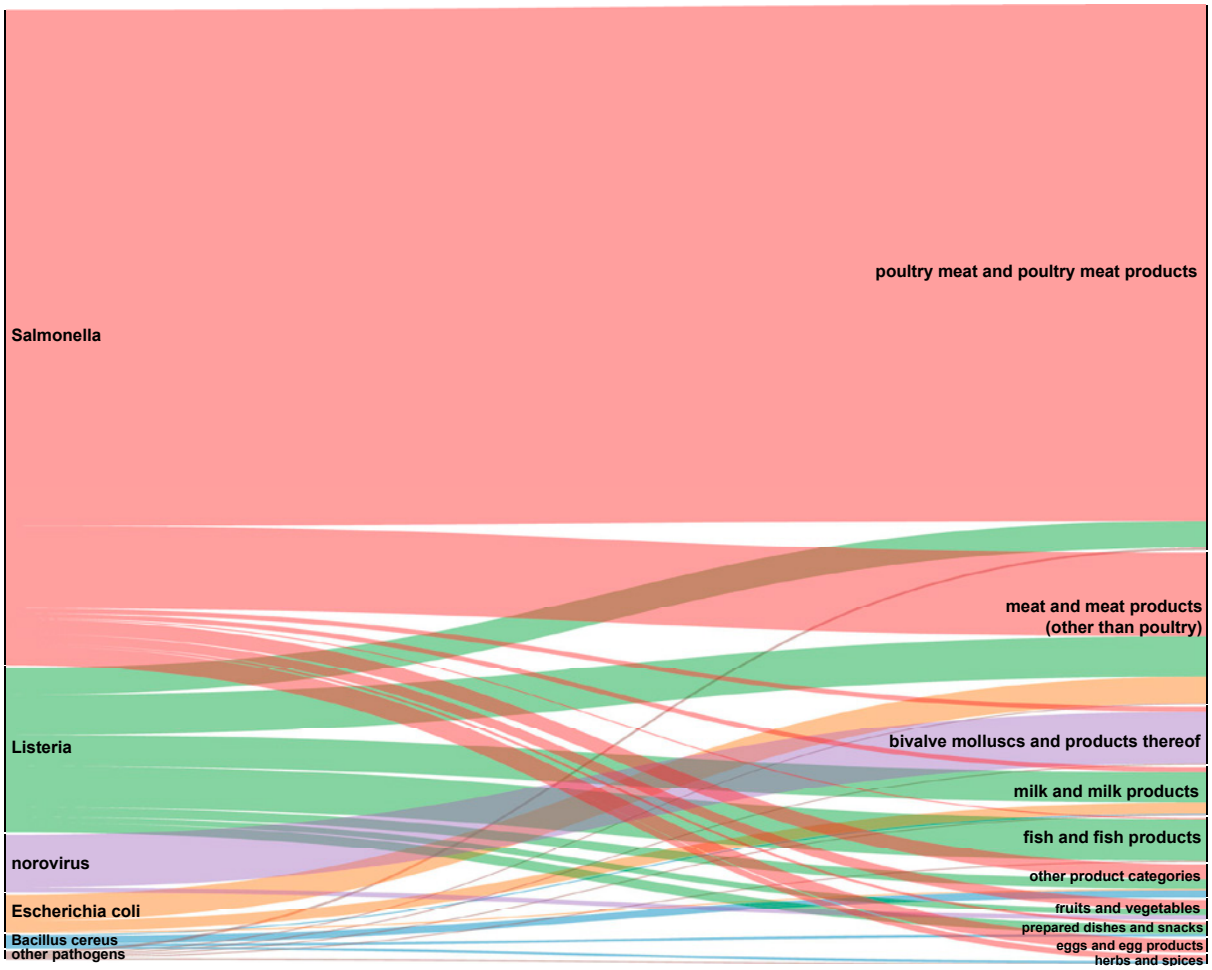


Pathogenic microorganisms

788 notifications

The alluvial diagram above shows that a significant part of the RASFF notifications on products from member countries concern pathogenic micro-organisms in food of animal origin mostly. The diagram below provides more detail about this. There has been a 37% increase in notifications on pathogenic micro-organisms in 2020 compared to 2019.

Pathogenic microorganisms notified in 2020, set out against food product category on food products originating from member countries



Salmonella

Salmonella is more than ever the most frequently reported pathogen in food from member countries (537 notifications, up by 45%).

Recurrent notifications:

There were 273 notifications on *Salmonella* in poultry products originating from Poland. About half of these concerned *Salmonella* Enteritidis (149 notifications), for which a food safety criterion is set for fresh poultry. Sixteen operators were identified as recurrent.

Listeria monocytogenes

129 notifications

The diagram above reveals that *Listeria monocytogenes* contamination is mostly found on foods of animal origin (32 notifications in fish and fish products, 31 in meat and meat products, 25 in milk and milk products, 21 poultry meat and poultry meat products). *Listeria monocytogenes* in cold fish products was still an important cause of foodborne outbreaks in 2020. *Listeria monocytogenes* is particularly dangerous and even lethal for persons with weakened immune system.

Recurrent notifications

Listeria monocytogenes was notified 13 times in cold fish products from Poland (one operator was

identified as recurrent) and 13 times in cheese from France (there were no recurrent operators).

Norovirus

There were 50 notifications (up 100 %) concerning norovirus, 27 of which reported norovirus in live oysters from France; mostly notified in the first quarter of 2020. Two operators were identified as recurrent.

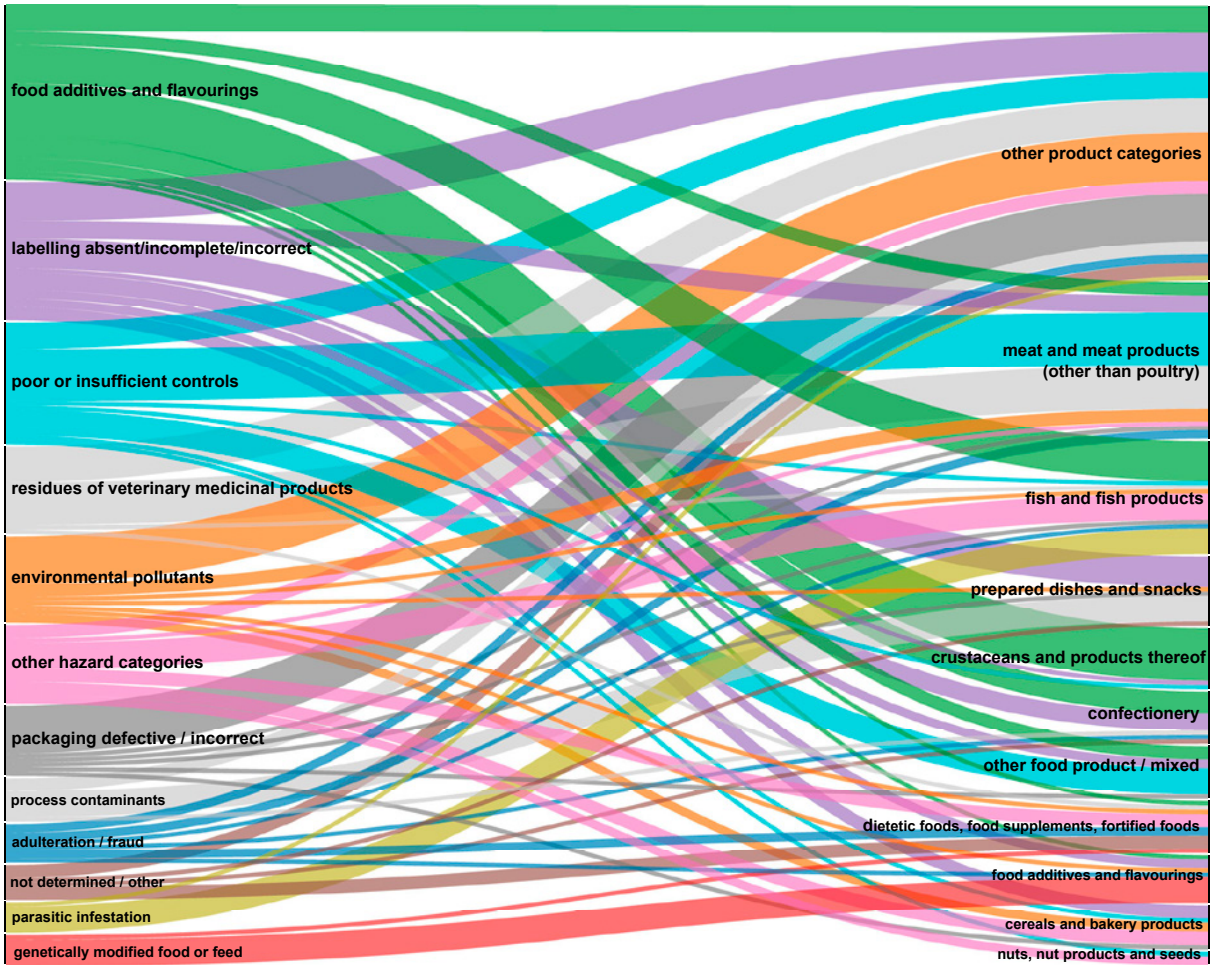
Escherichia coli

Out of 30 notifications on pathogenic *Escherichia coli*, 29 notifications were about Shigatoxin-producing *Escherichia coli*, that can cause foodborne illness because of its capacity to produce toxins. As the capacity of the strain to really cause illness depends on several factors, it is not straightforward to estimate the risk a contamination poses to health. The contamination is of animal or human origin and therefore is most often found on (non-heat treated) meat products (19 notifications) and cheeses (nine notifications).

Other hazard categories

The diagram below reveals that the three most frequently notified hazard categories in "other hazard categories" are: food additives and flavourings (32 notifications), labelling absent/incomplete/incorrect (28 notifications) and poor or insufficient controls (23 notifications). The most frequently reported food additive is sulphite (too high content) in crustaceans (11 notifications, of which 6 were about too high content of sulphite in Norway lobsters from Ireland).

Other hazard categories notified in 2020, set out against food product category on food products originating from member countries

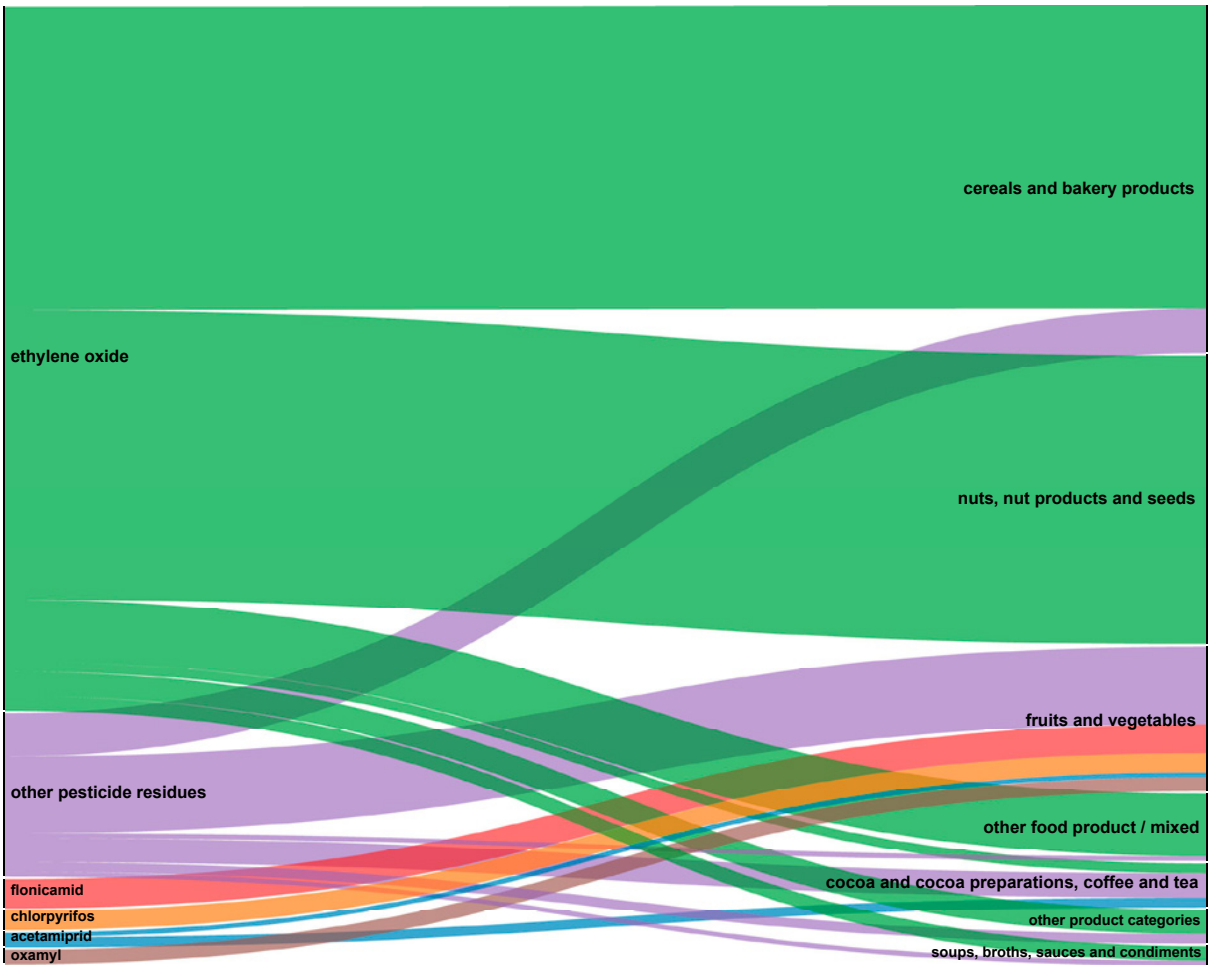


Pesticide residues

166 notifications (up 492%)

Pesticide residues suddenly rank second in the top 10 hazards for products originating from member countries. This is mainly due to the incident concerning the detection of ethylene oxide in sesame seeds imported from India. Although the sesame seeds themselves obviously do not originate from a member country, the sesame seeds often get reformulated into mixes but also as ingredients in a wide variety of products that, as a consequence of the contamination with ethylene oxide, also needed to be withdrawn from the market.

Pesticide residues notified in 2020, set out against food product category on food products originating from member countries



Ethylene oxide incident

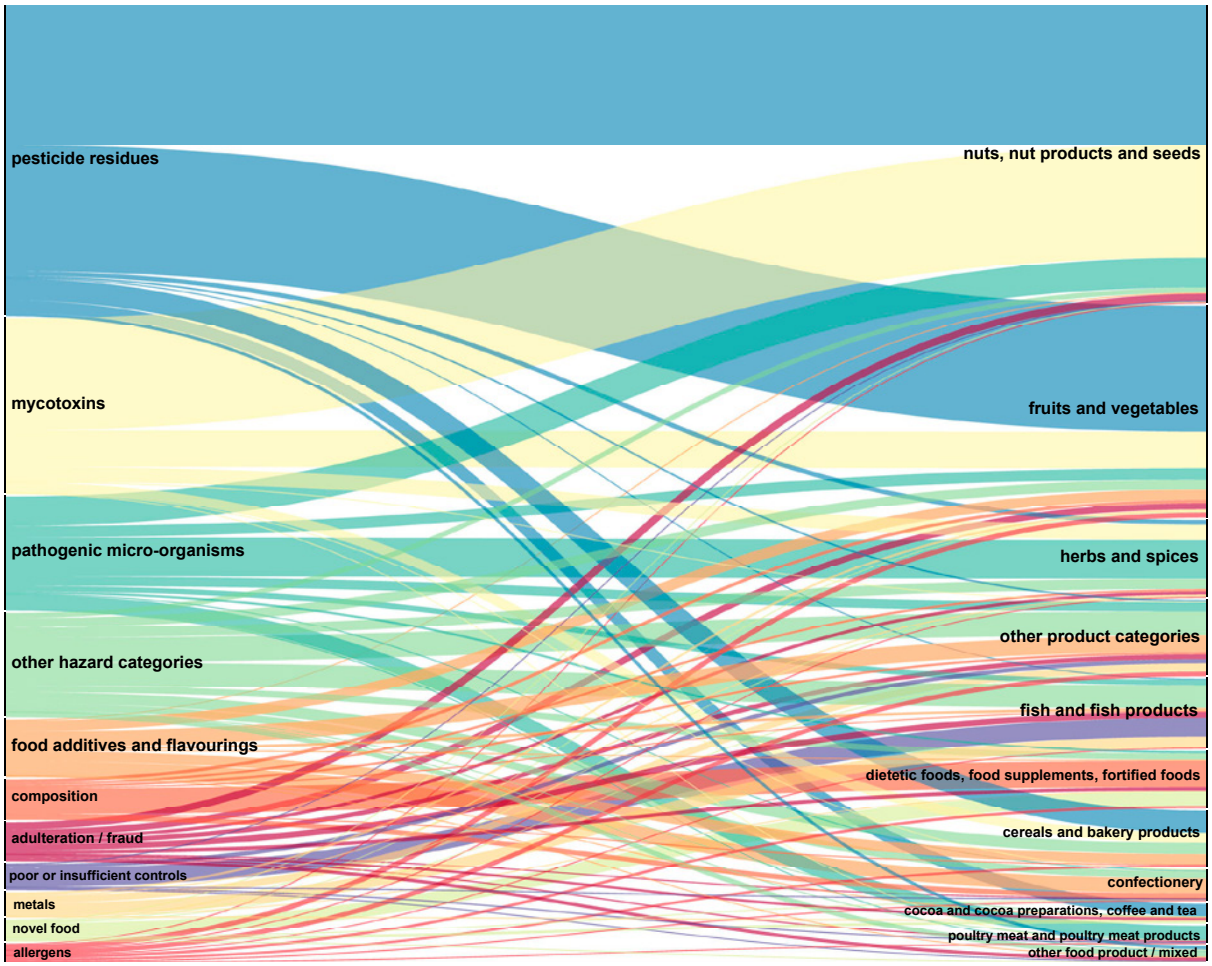
On 9 September 2020, the Belgian authorities transmitted the first notification on the presence of ethylene oxide detected in two batches of sesame seeds from India. This notification was followed by another 315 notifications until the end of the year on the same issue. Ethylene oxide is not approved in the EU as an active substance in plant protection products. It is classified as carcinogen and mutagen category 1B in accordance with the EU legislation on classification and labelling of chemicals, which implements the UN Globally Harmonised System. Because no safe level can be established, any exceedance of the MRL is to be avoided.

The Member States' food crisis coordinators met early October 2020 to harmonise authorities' reaction, in line with the EU MRL legislation and agreed that any sesame seeds that exceed the legal limit

of 0.05 mg/kg, or processed/composite products containing it, must not be marketed or maintained on the market and must therefore be withdrawn and/or recalled.

The sesame seeds have been widely distributed both in EU and non-EU countries. They are used in particular to make mixtures of seeds or as ingredients in mixtures of flour and bakery products. On an unprecedented scale, Member States ordered recalls and withdrawals of such products from their markets. So many notifications were made because business operators checked large quantities of stock of sesame seeds or processed products and often non-compliances were found. This in turn triggered traceability investigations both upstream to find the origin of the sesame seeds and downstream to withdraw all processed products in which the seeds, in whatever quantities, were added. These notifications continue to be reported well into 2021. Beside sesame seeds, other foods such as turmeric, ginger, amaranth, psyllium, okra, dried shallots, rice or tea are also reported to contain ethylene oxide in excess of the applicable MRLs.

2020 top 10 hazard and product categories on food products originating from non-member countries



Obviously, the ethylene oxide incident had a great impact on the top 10 hazard and product categories on food products originating from non-member countries. Indeed, pesticide residues feature at the top, followed by mycotoxins and pathogenic micro-organisms, that are usually among the top issues for products from non-member countries.

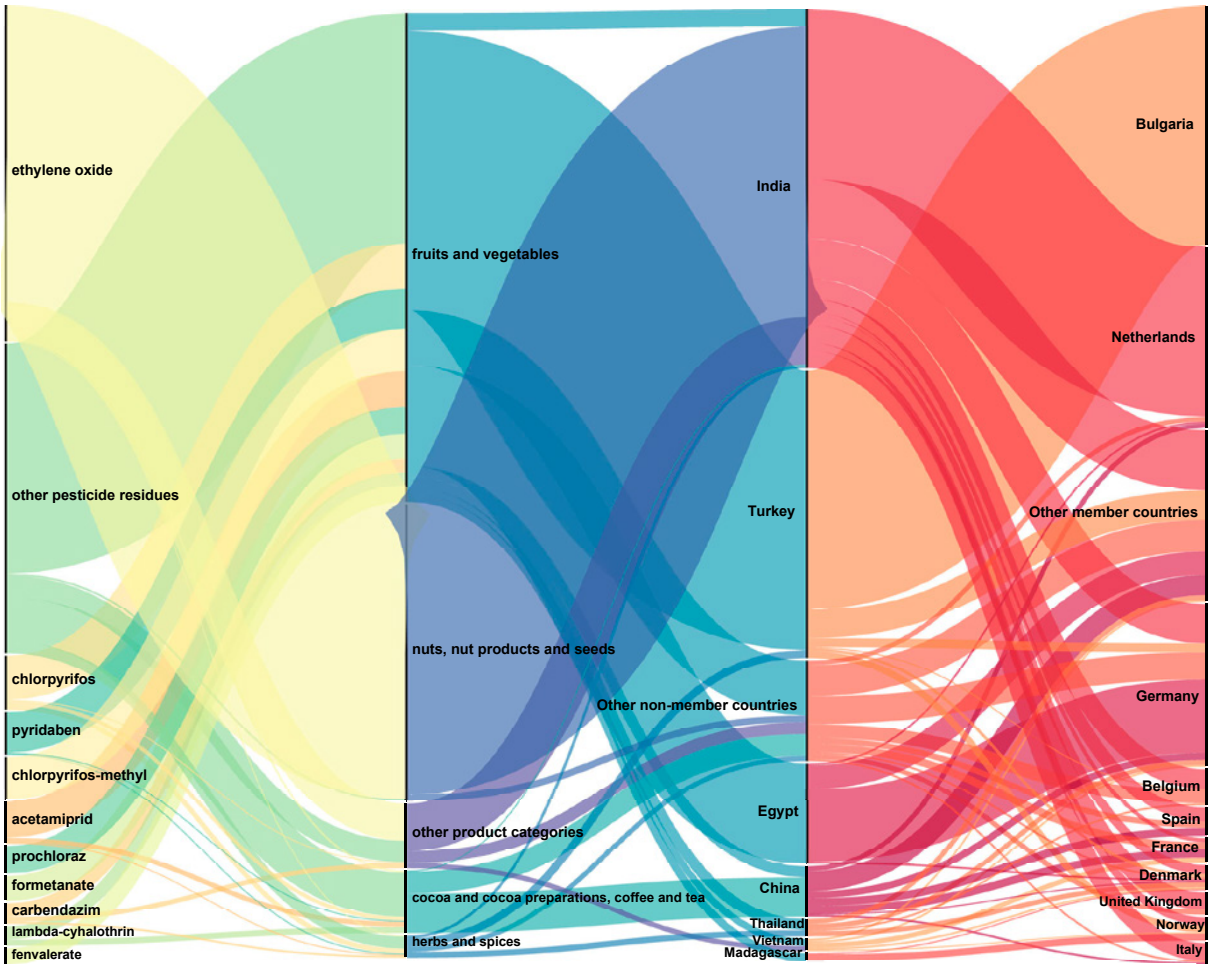
It should be noted that in the above diagram and in the following three, the products for which an origin was unknown have been added to "products originating from non-member countries".

Pesticide residues

667 notifications (up 164%)

Without any surprise, the most reported active substance in 2020 was ethylene oxide (347 notifications), followed by chlorpyrifos (48 notifications), pyridaben (43 notifications) and chlorpyrifos-methyl (41 notifications). As reported earlier (food products from member countries), ethylene oxide was mainly found in sesame seeds from India or products in which they featured as an ingredient. The other pesticide residues, as usual, were mainly in fruits and vegetables. The most often notifying country on pesticide issues was Bulgaria, which last year principally reported border rejections on Turkish commodities.

Food product categories for pesticide residues notifications in 2020, set out against non-member country of origin set out against notifying country



It is worth to mention that in the alluvial diagrams, like the one above, a relationship is only demonstrated between two sides, not throughout the whole diagram.

Mycotoxins

400 notifications (down by 23 %)

Mycotoxin levels in food usually do not produce an acute adverse effect on consumers but chronic exposure may pose a significant risk to consumers who are eating these products frequently, in particular for aflatoxins. Aflatoxin B1 is a carcinogenic and genotoxic substance, for which there is no safe level of intake. For this reason the ALARA principle is applied and the legal limit enforced is **a**s **l**ow **a**s **r**easonably **a**chievable.

Mycotoxin hazards notified in 2020, set out against food product category set out against non-member country of origin set out against notifying country

Aflatoxins

Aflatoxins are the most frequently reported mycotoxins in food (367 notifications). They were particularly detected in dried figs from Turkey (58 notifications), followed by groundnuts from United States (29 notifications).

Ochratoxin A

Ochratoxin A was mostly found in fruits and vegetables, in particular in dried figs from Turkey.

Pathogenic micro-organisms

289 notifications

Most issues reported on pathogens in food from non-member countries are still about *Salmonella* findings. *Salmonella* was mostly notified in black pepper from Brazil (61 notifications), followed by *Salmonella* in sesame seeds (various origins, 49 notifications).

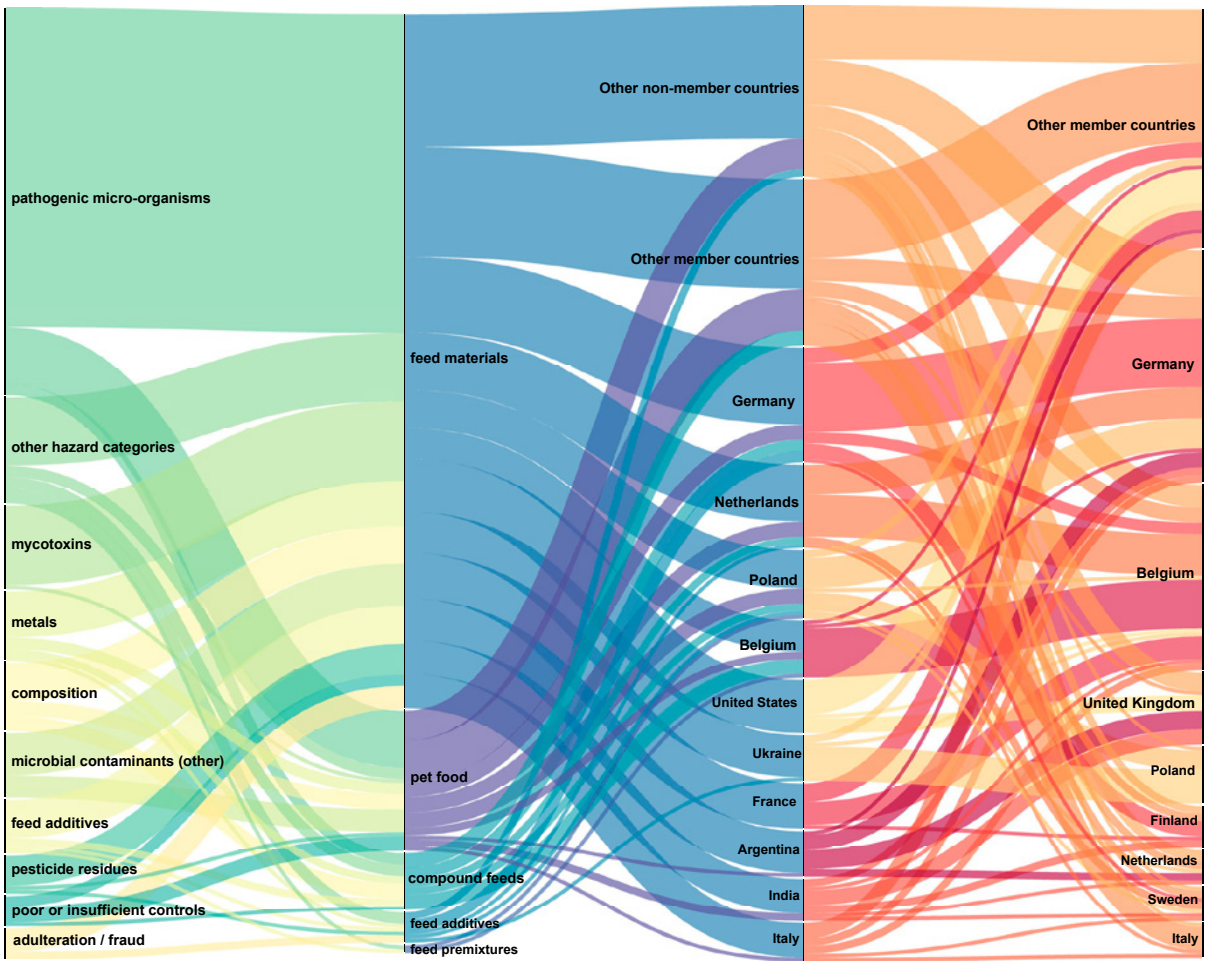
Pathogenic microorganisms notified in 2020, set out against food product category, set out against country of origin, set out against notifying country on food products originating from non-member countries

2020 feed notifications

231 notifications

The notifications regarding feed take about 6% of the total volume of RASFF notifications.

Hazard categories for feed notifications in 2020 set out against feed product categories, set out against country of origin set out against notifying country



The chart above demonstrates that the notifications relate to feed from diverse origins, both from member countries and from non-member countries. An important part of the notifications report on pathogenic micro-organisms.

Pathogenic microorganisms

All of the 102 notifications concern *Salmonella* in different types of feed materials but also in pet food. In dog chews (13 notifications), this is considered a serious health risk, not so much for the dog itself but for a child that may be contaminated from a dog chew lying around the house. In raw pet food, a contaminated product may be harmful for the pets (through ingestion) but also to their owners through cross-contamination.

Mycotoxins

All of the 22 notifications on mycotoxins are about aflatoxins, reported mostly in groundnuts from India, Argentina or the United States.

2020 food contact materials notifications

123 notifications (down by 30%)

2020 broke the trend of increasing numbers of notifications on food contact materials. Their relative share in the overall notifications in 2020 is 3%.

Migration

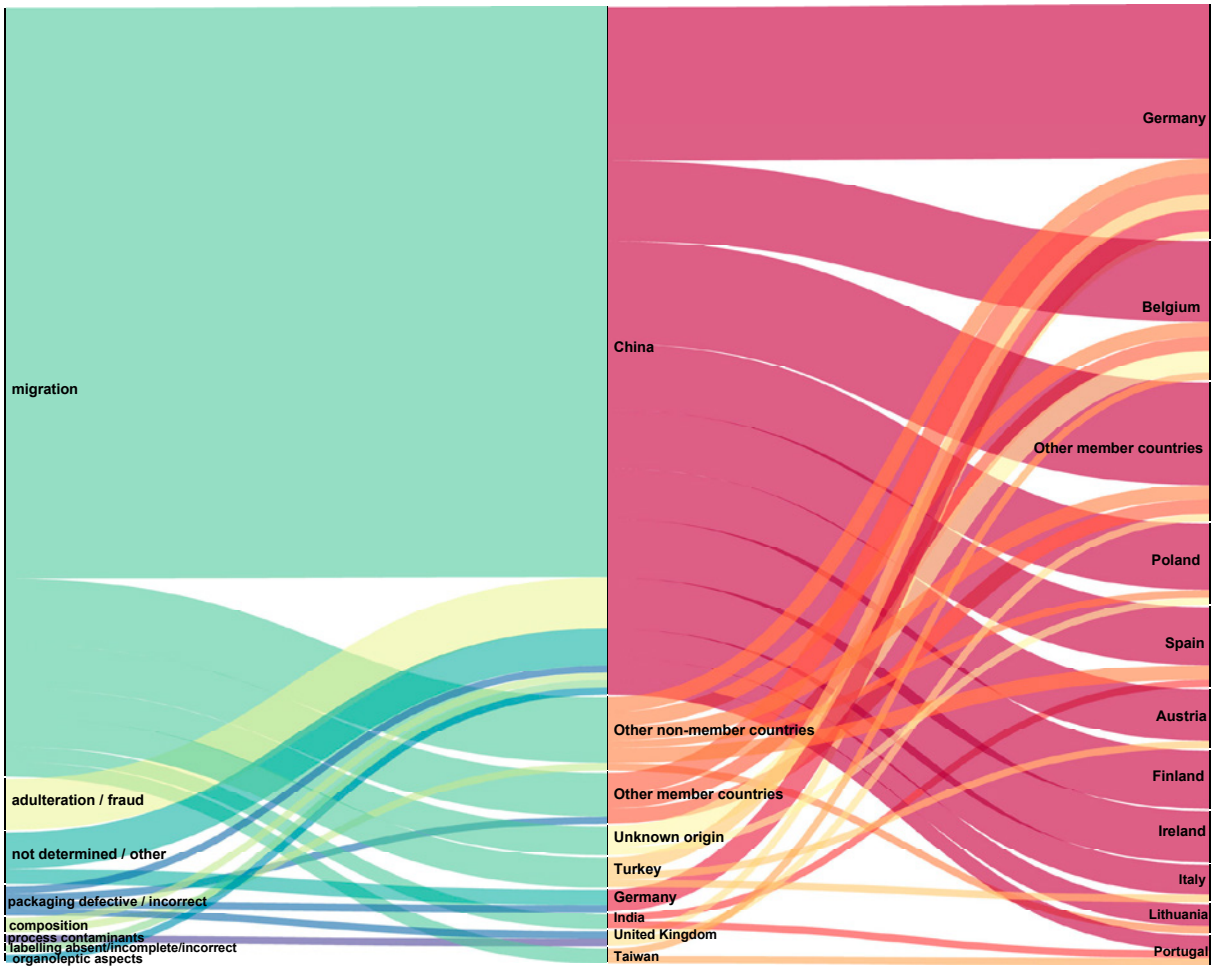
Most issues relating to food contact materials are about migration of chemicals from food contact materials into food. This is usually measured by bringing the material in contact with a "simulation solution" and analysing the chemicals that have migrated into the solution. Depending on the type of material, different chemicals will migrate. The table below gives an overview of the main materials and migrants notified to RASFF in 2020:

food contact material	compounds migrating	notifications in 2020
Melamine	formaldehyde, melamine	38
Nylon	primary aromatic hydrocarbons	27
Ceramics, decorated glass	cobalt(3),lead (4), arsenic (2), cadmium (1)	6
Metal	lead (2), aluminium (5)	6
Silicone	volatile organic constituents	3
Lids of jars, plastic objects	plasticizers	3

Of the notifications concerning the migration of melamine and formaldehyde there were quite a few (at least 14) that described the objects as made from "bamboo fiber". In some of these notifications, there was often no mention of the melamine material used and sometimes it was described as "filler". Often these products had also false claims such as "eco-friendly" or "compostable". Preliminary results of the analysis of such products show that they are prone to higher migration of chemicals into the food. An evaluation by EFSA determined that such bamboo material is not authorised as filler material for plastics. In 2021, DG SANTE has launched a coordinated programme focused on the online sale of such products.

The alluvial diagram below shows that migration of substances from food contact materials from China was by far the most reported issue in 2020. Germany was the most notifying country, followed by Belgium.

Hazard categories for food contact material notifications in 2020 set out against country of origin, set out against notifying country



More facts and figures

Evolution of the number of notifications

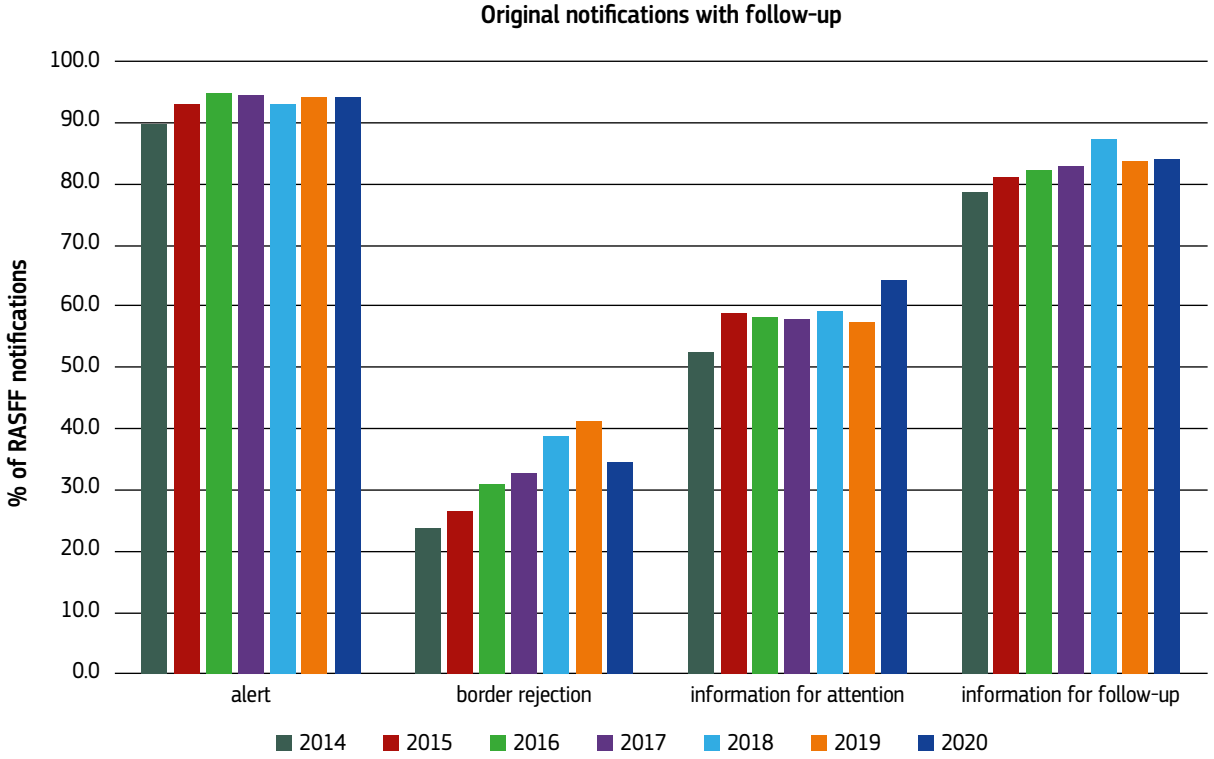
- by notification classification

Original notifications and follow-up

year	alert		border rejection		information for attention		information for follow-up		news	
	original	follow-up	original	follow-up	original	follow-up	original	follow-up	Original	Follow-up
2014	725	3280	1357	581	605	670	402	1377	39	235
2015	748	4028	1376	417	475	538	378	1222	39	72
2016	817	4659	1159	421	573	704	372	1504	20	163
2017	927	5781	1570	771	683	979	586	1586	17	88
2018	1118	6513	1401	692	675	957	493	2141	12	138
2019	1149	6441	1480	719	843	1091	525	1908	18	229
2020	1398	7419	1049	672	770	1024	558	1836	13	110

The table above shows that in 2020 there were mixed trends in RASFF. Because most notifications concerning ethylene oxide (see earlier in the report) were alert notifications, alerts were going hard. There was a cool-down on other type of notifications, especially border rejections, probably due to reduced trade and controls following COVID-19. Use of follow-up notifications further intensified, even with the very intensive usage of the new instrument: conversations, around 14 000 conversations were created by network members. The conversations allow a simple question and response mechanism and can therefore replace follow-ups for this type of interaction. Each conversation typically has a few messages with members informing, requesting or replying to each other.

Original notifications with follow-up



The chart above shows the percentage of notifications, per notification type, that have been followed up on (i.e. that have received at least one follow-up). Now that the option to follow-up through conversations is there, it may be that some notifications only were followed up by conversations. There is however an important difference: the conversations are only open to invited participating network members, whereas follow-up notifications are visible to all.

- by notifying member[5]

member	2014	2015	2016	2017	2018	2019	2020
Austria	46	56	46	48	72	92	65
Belgium	198	179	129	199	240	225	267
Bulgaria	87	99	92	109	100	113	215
Commission Services	0	0	1	2	1	4	1
Croatia	11	20	28	49	24	42	21
Cyprus	55	39	29	41	21	25	16
Czech Republic	70	56	79	79	47	110	70
Denmark	99	94	80	130	134	129	105
Estonia	12	17	15	28	14	20	27
EFSA	0	0	0	0	0	1	
Finland	98	55	57	65	83	63	81
France	266	235	194	254	268	248	220
Germany	330	275	369	384	419	534	531
Greece	60	64	57	88	135	193	51
Hungary	15	9	20	29	28	29	28
Iceland	1	4	1	1	2	4	1
Ireland	42	57	31	68	29	34	58
Italy	503	506	412	543	398	377	297
Latvia	20	42	28	32	23	39	32
Liechtenstein	0	0	0	0	0	0	0
Lithuania	36	30	42	37	41	68	103
Luxembourg	12	13	13	7	11	14	31
Malta	8	13	15	38	19	19	4
Netherlands	252	258	287	490	456	378	498
Norway	44	31	65	36	34	35	23
Poland	132	90	74	87	131	203	185
Portugal	38	30	33	29	50	42	30
Romania	17	23	16	19	9	15	33
Slovakia	38	34	40	50	32	41	35
Slovenia	30	39	32	31	26	47	40
Spain	189	174	146	237	250	279	193
Sweden	67	74	94	106	117	183	115
Switzerland	34	24	47	60	54	46	62
United Kingdom	279	337	349	373	353	387	356

[5] From 2020 including news notifications

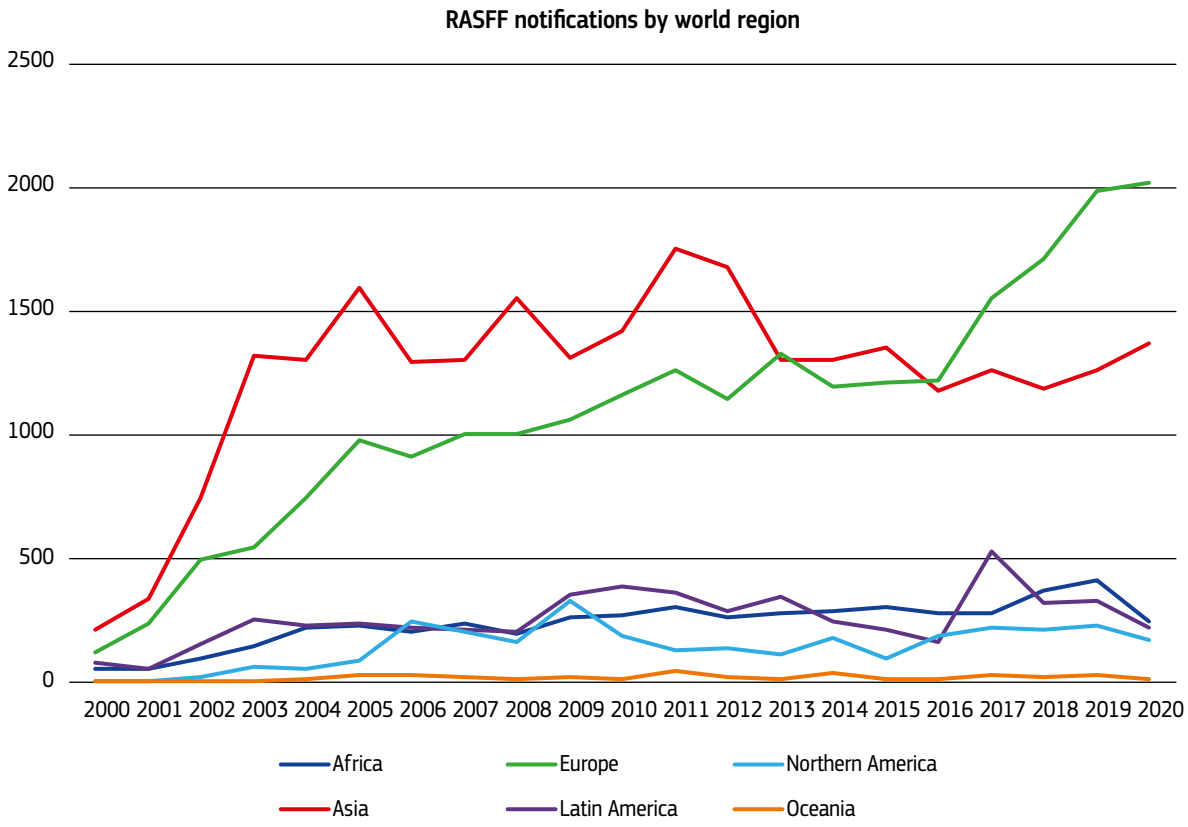
2020 notifications by hazard and product category and by type of control

hazard category	adulteration / fraud		allergens		biological contaminants (other)		composition		environmental pollutants		feed additives		food additives and flavour-ings		foreign bodies		genetically modified food or feed		labelling absent/incom-plete/incorrect		metals		microbial contaminants (other)	
type of control	border	market	border	market	border	market	border	market	border	market	border	market	border	market	border	market	border	market	border	market	border	market	border	market
alcoholic beverages								1								2								1
bivalve molluscs and products thereof	1																			1	2	1		20
cephalopods and products thereof	2		1																		8	3		
cereals and bakery products			1	28		2	1	1		4			19	3	1	20	7		1	4			1	11
cocoa and cocoa preparations, coffee and tea	5	3		12				3	1	1			1			4			1	1		1		
compound feeds								4		1		2										2		
confectionery	1	1	1	13			8	6	1				16	16		8				5				3
crustaceans and products thereof	1			3									2	11						1	1			
dietetic foods, food supplements, fortified foods	1	11		12			1	93		4		2		3		1		1		1		4		1
eggs and egg products				1						1										2				
fats and oils	3			1			3	1		5														1
feed additives		1								3		1										1		
feed materials	4				1	1	1	8		2	1	8		1		1				1	2	9	10	1
feed premixtures												1		1										
fish and fish products	13	1	1	2	3	12	1	1	1	5			5	10		7			1	1	15	44	1	
food additives and flavourings	1	1		1						1				1		3		9		2				
food contact materials	7						2													1				
fruits and vegetables	14		1	14		1	2	6		3			15	10		15				1	1	7	11	2
gastropods																						2		
herbs and spices	6			2			5			3						1						3	4	1
honey and royal jelly																								
ices and desserts				7									1	1		3								
meat and meat products (other than poultry)		3		10					1	2				3		12				4		4		2
milk and milk products				11												13				1				9
natural mineral water								2		1													1	
non-alcoholic beverages				3				1					15	5		6			1	2				
nuts, nut products and seeds	15	1		8	2	2		5					2		1	3			1	1			1	3
other food product / mixed	5	2		12				1					2	2	1	7	3			2				
pet food								4								3						1	2	4
poultry meat and poultry meat products	2	1		7					1							5				1				1
prepared dishes and snacks				27						1			7	1		19				7				
soups, broths, sauces and condiments				17									1	3		6				1				2
water for human consumption (other)																								1
wine				1																				
total	81	25	5	192	6	18	24	137	5	37	1	14	86	71	3	139	10	10	5	40	29	82	31	63

continued

hazard category	migration		mycotoxins		natural toxins (other)	not determined / other		novel food		packaging defective / incorrect		parasitic infestation		pathogenic micro-organisms		pesticide residues		poor or insufficient controls		process contaminants		residues of veterinary medicinal products	
type of control	border	market	border	market	market	border	market	border	market	border	market	border	market	border	market	border	market	border	market	border	market	border	market
alcoholic beverages								1	1		1												
bivalve molluscs and products thereof					10		14						1	1	49			2					
cephalopods and products thereof															1			4					
cereals and bakery products			14	17	4		1				1				2	10	73		1	1	7		
cocoa and cocoa preparations, coffee and tea					4				11						1	18	6						
compound feeds							1								3				1				1
confectionery			1			1	9		2					1	1		1		1	1	2		
crustaceans and products thereof															6		1	1	2			5	1
dietetic foods, food supplements, fortified foods					24	1	6	2	72						7								1
eggs and egg products							2							3	10				1				1
fats and oils					2												2		1	1	11		
feed additives																	1						
feed materials			19	2	4		3							16	68		8	2	1				1
feed premixtures																							
fish and fish products		1			1	4	9			1	2	14	7	2	40		2	40				2	3
food additives and flavourings																							
food contact materials	28	75				1	5				4										1		
fruits and vegetables			66	21	2	1	4	2			1			16	20	209	81						
gastropods																							
herbs and spices			25	9	17				2					77	12	4	5						
honey and royal jelly										2													2
ices and desserts											1				1								
meat and meat products (other than poultry)							6				1			8	110		1		9				10
milk and milk products				1			4								40				2			1	2
natural mineral water																							
non-alcoholic beverages			1	1			1		5		1												
nuts, nut products and seeds			208	33			2	2	2					53	13	5	323		2				
other food product / mixed				2	1		1	1	13		1				7		17	2	5		4		
pet food			1											3	12		1	4					
poultry meat and poultry meat products							4				1			28	401			3	1				3
prepared dishes and snacks				1			1		3		1				12		3				6		
soups, broths, sauces and condiments				1		1	1				7				1		4		1	1	1		
water for human consumption (other)																							
wine				1													1						
total	28	76	335	89	69	9	74	8	111	3	22	14	8	208	817	246	530	58	28	4	32	8	25

2000-2020 notifications by world region



2020 non-member countries having provided follow-up

country	distr	orig	other	follow-ups
Afghanistan	1	1		
Albania	16	1		19
Algeria	5	3		
Andorra	50		1	18
Angola	3	1		
Antigua and Barbuda	2			
Argentina	1	51	2	19
Armenia	1			
Aruba	3		1	
Australia	16	3	4	10
Azerbaijan	2	1		
Bahamas			1	
Bahrain	7		1	
Bangladesh		8		
Barbados	2			
Belarus	10	4		1
Benin	5		1	
Bermuda	2			
Bolivia	1	4	1	1
Bosnia and Herzegovina	10	3	1	11
Brazil	3	103	1	200
Brunei	2			
Burkina Faso	1	1		
Burundi	2			
Cambodia		3		
Cameroon	2	9		1
Canada	25	9	6	1
Cape Verde	4			2
Central African Republic	1			
Chile	7	10	1	8
China	7	217	6	3
Colombia	4	5		
Comoros	4			
Congo (Brazzaville)	1			
Costa Rica	2			
Côte d'Ivoire	6	1		
Curaçao	1			
Democratic Republic of the Congo	13			
Djibouti	5			
Dominican Republic	2	3		
Ecuador	1	6		5
Egypt	2	41	1	1
El Salvador		1		
Equatorial Guinea	7			
Ethiopia		10		
Faeroe Islands	2		1	
Falkland Islands	7			
Fiji		1		
French Polynesia	5			
Gabon	13			1
Gambia	2	2		

country	distr	orig	other	follow-ups
Georgia	5	14		3
Ghana	26	35	1	1
Gibraltar	10	1	3	7
Greenland	1	1		
Guatemala	2		1	
Guernsey	15			
Guinea	4	1		
Guyana	2	6		
Honduras		2		1
Hong Kong	36	11	14	43
India	3	476	6	266
Indonesia	1	15		13
INFOSAN			1038	
Iran		38	1	
Iraq	3			
Isle of Man	11			
Israel	8	6	1	
Japan	9	7	1	2
Jersey	24		1	
Jordan	7	3	1	
Kazakhstan	4	2	1	
Kenya	1	3		
Kosovo	5			5
Kuwait	6		3	
Laos		2		1
Lebanon	9	3		7
Liberia	4			
Libya	2			
Macao	1			
Madagascar	2	3		1
Malaysia	11	8	2	2
Maldives	1	1		
Mali	3	1		
Marshall Islands	1			
Mauritania	3	3		
Mauritius	7			
Mexico	5	6		
Moldova	7	3	1	
Monaco	22		1	2
Montenegro	6		1	
Morocco	17	27		6
Mozambique	2	8		
Myanmar		1		
Namibia	3	3		
Nepal		2		
New Caledonia	3			
New Zealand	13	10	3	4
Niger	2			
Nigeria	2	36	1	
Northern Ireland	2		2	
Oman	1	3		
Pakistan		23	1	2

country	distr	orig	other	follow-ups
Panama	4	2		
Papua New Guinea		1		
Paraguay		3		
Peru		13	1	4
Philippines	6	13		8
Qatar	15			
Republic of North Macedonia	10	8	1	9
Russia	20	24	2	3
Rwanda	2			
San Marino	28		1	27
Saudi Arabia	18		1	1
Senegal	6	10		1
Serbia	13	7	1	1
Seychelles	4	7		
Sierra Leone	9			1
Singapore	20	6	2	
Sint Maarten	1			
Somalia	3			
South Africa	14	11		6
South Korea	6	9	2	
Sri Lanka	1	23		7
Sudan		16		
Suriname	6		1	
Syria		10		
Taiwan	7	8	1	1
Thailand	9	46	4	13
Togo	1	3	1	
Trinidad and Tobago		1		
Tunisia		4	1	
Turkey	6	389	17	75
Turkmenistan	1			
Uganda	2	8		1
Ukraine	35	45	6	86
United Arab Emirates	29	5	18	7
United Kingdom	49	8	25	539
United States	33	161	22	49
Uruguay		2		
Uzbekistan	2	5		
Vanuatu	1			
Venezuela	1	2	1	
Vietnam	7	48		10
West Bank and Gaza Strip		1		

The first column “distr” shows the number of 2020 notifications for each country to which the Commission’s Services notified distribution of a product. The second column “orig” shows the number of 2020 notifications for each country to which the Commission’s Services notified a product originating from it. The third column “other” gives the number of notifications for which the country was notified for another reason than origin or distribution e.g. if the product transited through the country. The fourth column “follow-ups” shows the number of follow-ups received from each country in 2020.

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