Technical Report

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Food contamination incident linked to *Salmonella* Enteritidis ST11 in egg-based products

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Abstract

Salmonella enterica remains one of the leading causes of foodborne outbreaks in the European Union. *Salmonella* Enteritidis is the serovar most frequently reported in outbreak settings, with eggs and egg products representing major vehicles of infection. The predominant sequence type, ST11, is globally distributed and comprises several phylogenetic lineages characterised by limited genomic diversity within lineages, that can complicate outbreak investigations by resulting in highly similar whole genome sequencing (WGS) profiles among epidemiologically unrelated isolates. This report describes a food contamination incident identified in France between May and July 2026 involving four distinct outbreaks of *S*. Enteritidis ST11 infections geographically dispersed. Epidemiological and microbiological investigations confirmed homemade egg-based products as the vehicle of infections. This was further supported by the identification of five food isolates, collected from eggs and egg-based products sampled at the patients' places, that belong to two distinct strains. These isolates matched the two human representative strains of the four French outbreaks. Food traceability investigations linked all outbreaks to a common egg distribution network involving two packing centres and three laying-hen farms belonging to the same food group in Poland. These farms had previously been associated with the multinational polyclonal salmonellosis outbreak linked to eggs that affected 18 European countries between 2016 and 2020. Similar to that earlier event, multiple *S*. Enteritidis ST11 strains were identified in this incident in 2026. The repeated detection of *Salmonella* in eggs originating from the same production group suggests persistent *Salmonella* contamination or possible reintroduction upstream in the egg production chain. These findings highlight the need for further investigations to identify the possible root causes of vertical and/or horizontal contamination. Moreover, the detection of a human and non-human cluster spanning France and other countries in 2026 suggests the possible cross-border dimension of the incident and warrants further investigation.

Keywords: whole genome sequencing, food borne outbreak, *Salmonella* Enteritidis, egg products

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1 Background and terms of reference as provided by the requestor

On 5 July 2013 the European Food Safety Authority (EFSA) received a mandate from the European Commission on the request for scientific assistance in the investigation of multinational foodborne outbreaks.

In multinational foodborne outbreak investigations, the European Commission and Member States are responsible for risk management activities such as control activities (inspections, sampling and analyses) aimed at the confirmation of suspected food sources, their tracing-back and forward, the management and use of the Rapid Alert System for Food and Feed (RASFF) and the adoption of possible trade restrictions. Several European risk assessment bodies are involved in the coordination of multinational investigations of outbreaks of foodborne pathogens to support Member States. While both the European Centre for Disease Prevention and Control (ECDC) and the European Food Safety Agency (EFSA) share activities and collaborate in the area of foodborne outbreak investigations, it is important that their respective tasks and responsibilities are clearly defined. ECDC identifies, assesses and reports on human cases (public health threats) in accordance with Regulation (EC) No 851/2004[1].

EFSA is responsible for risk assessments in all fields that have a direct or indirect impact on food and feed safety and has been mandated by the European Commission in accordance with Directive 2003/99/EC[2] to directly collect and publish information on the monitoring of zoonoses, zoonotic agents and foodborne outbreaks.

The purpose of this mandate is to specify the contribution expected from EFSA in these investigations of multinational foodborne outbreaks. In accordance with Article 31 of EU Regulation 178/2002[3], EFSA is requested to provide scientific assistance in the area of foodborne outbreak investigation, particularly:

1. Contributing to the ECDC rapid outbreak assessments by providing information from the monitoring of zoonoses, zoonotic agents and foodborne outbreaks. When such information has not been published yet, EFSA should consult the relevant Member States on the use of the data through its Task Force on Zoonoses Data Collection. When EFSA is contributing, the rapid outbreak assessment becomes a joint rapid outbreak assessment of EFSA and ECDC. If considered necessary by ECDC to publish in an initial phase (within its 36 hours limit), a rapid outbreak assessment may be published by ECDC alone without food/animal data or only containing data copied or referred to from published EFSA reports.

[1] Regulation (EC) No 851/2004 of the European Parliament and of the Council of 21 April 2004 establishing a European Centre for disease prevention and control. OJ L 142, 30.4.2004, pp. 1–11. https://eur-lex.europa.eu/eli/reg/2004/851/oj/eng. As last amended.
[2] Directive 2003/99/EC of the European Parliament and of the Council of 17 November 2003 on the monitoring of zoonoses and zoonotic agents, amending Council Decision 90/424/EEC and repealing Council Directive 92/117/EEC. OJ L 325, 12.12.2003, pp. 31–40. https://eur-lex.europa.eu/eli/dir/2003/99/oj/eng.
[3] Regulation (EC) No 178/2002 of the European Parliament and of the Council of 28 January 2002 laying down the general principles and requirements of food law, establishing the European Food Safety Authority and laying down procedures in matters of food safety. OJ L 31, 1.2.2002, pp. 1-24. https://eur-lex.europa.eu/eli/reg/2002/178/oj/eng.

2. When more information on a specific outbreak becomes available, and upon specific request of the Commission, to further collaborate with ECDC in the foodborne outbreak assessment by providing an in-depth analysis of the food data including the robustness of the link to the suspected food source, based on epidemiological and analytical results.

3. Upon specific request of the Commission, to provide technical assistance to the Commission in its conduct of tracing-back and forward analyses of incriminated batches of animals, food or feed in the affected Member States.

4. Pending the further course/evolution of the outbreak and new information becoming available, to provide an update of the joint rapid outbreak assessment carried out jointly with ECDC.

On 17 July 2026, EFSA received a request from the European Commission in the context of the mandate mentioned above. Taking into account the RASFF notification issued by the France on several ongoing national foodborne outbreak investigations related to eggs, the Commission asked EFSA to provide support in the investigation of the contamination incident shared through RASFF. ECDC was invited to take part in this exercise and expressed interest in participating as observer.

2 Introduction

On 5 June 2026, the food safety authority in France issued a RASFF notification (information notification for attention 2026.4993) to report the results of the national food investigations related to a *Salmonella* Enteritidis ST11 contamination incident. Specifically, between May and July 2026, the national authorities investigated four outbreaks of infections linked to the consumption of homemade products containing eggs.

Given the increasing signal observed by the national competent authorities in France suggesting a possible spread and circulation of closely related clones belonging to the same *S*. Enteritidis sequence type (ST11) contaminating eggs, EFSA and the European Commission considered important to further examine the available evidence. Therefore, this report was prepared to summarise the current findings, assess the emerging patterns, and support further investigation.

On 17 July 2026, EFSA received and accepted the present request that falls under the Mandate M-2013-0119 "Request for scientific assistance of EFSA in the investigation of multinational foodborne outbreaks". On 17 July 2026 EFSA invited ECDC to join the exercise. ECDC expressed its interest as observer, therefore EFSA proceeded with the preparation of an EFSA Technical Report complying with points 1 and 3 of the mandate above by providing background information from the monitoring of zoonoses, zoonotic agents and foodborne outbreaks and by providing assistance to the Commission in its conduct of tracing-back and forward analyses of implicated batches of food in the affected Member States.

3 Data and methodologies

3.1 Data

Data included in this report comprise traceability, genomics, and background data.

The traceability data were provided by countries to the RASFF platform, established to ensure the exchange of information between countries to support swift reaction by food safety authorities in case of risks to public health resulting from the food chain. Its legal basis is Article 50 of Regulation (EC) 178/2002.

On 23 July 2026, EFSA launched a data call inviting the Country Officers of the EFSA WGS System to coordinate nationally the submission of *S*. Enteritidis ST11 isolates collected from eggs and egg products between April and July 2026. Additionally, the dataset includes the genomic profiles of the sequences belonging to isolates of *S.* Enteritidis ST11 submitted by the Member States to the EFSA WGS System since 2018.

The background data consists in the prevalence of *S.* Enteritidis in laying hen flocks and the occurrence of foodborne outbreaks linked to the matrix eggs and egg products, representing the main food category involved in the *Salmonella* foodborne outbreaks in this report, as reported to EFSA up to 2024 by Member States in accordance with the Directive 2003/99/EC.

3.2 Methodologies

The traceability data were extracted from the RASFF notification 2026.4993, analysed, and narratively summarised. A graphical representation was prepared to display the food traceability investigations related to the food vehicles suspected in this food incident, namely eggs and egg products (Figure 1).

The genomics data were analysed using the EFSA WGS System pipeline Version 3[4]. Genome profiles were calculated from assembled genomes using chewBBACA version 3.3.10, based on the *Salmonella enterica* schema described by Rossi *et al*. (2018) and made available through the Chewie Nomenclature Server (Mamede et al., 2021). Isolates with more than 10% missing loci (325 of 3 255 loci) were excluded from the analysis. Pairwise allelic distances were calculated between genomic profiles, and profiles differing by no more than 5 alleles were considered genetically similar. The ECDC database was also queried on 5 August 2026 using the same allelic-distance threshold to identify genetically similar human profiles.

The background data were extracted from the EFSA zoonosis database, analysed, and narratively summarised. The data referred to previously published European Union One Health Zoonoses Reports, and to *Salmonella*[5] and foodborne outbreak dashboards[6].

4 Results

4.1 Food traceability data

As of 27 July 2026, the RASFF notification 2026.4993 comprised 16 European Commission (EC) validated follow-ups (*fups*) containing food traceability data and analytical results shared by the involved countries. The graphical representation is displayed in Figure 1.

[4] https://dev.azure.com/efsa-devops/EFSA/_git/efsa.wgs.onehealth
[5] https://www.efsa.europa.eu/en/microstrategy/salmonella-dashboard
[6] https://www.efsa.europa.eu/en/microstrategy/FBO-dashboard

France

Between May and July 2026, the national authorities investigated four clusters of infections linked to the consumption of homemade products containing eggs. The traceability investigations identified food business operators common to the four investigated outbreaks. Specifically, the concerned operators (two packing centers and three farms) belonged all to the same Polish Group A. In addition, the same batches of eggs were identified as a food item in common across some of the outbreaks. Eggs Batch B was used for the preparation of the suspected chocolate mousse and tiramisu dessert (second and third outbreak). Eggs Batch C related to the tiramisu outbreak (third outbreak) and to the mayonnaise outbreak (fourth outbreak). Batch C tested *S*. Enteritidis positive. A detailed food description of each outbreak follows. The three farms of the Polish Group A had already been concerned by a multistate outbreak occurring between 2016 and 2020 in Europe (ECDC and EFSA, 2020).

On 27 July 2026, the food safety authority reported in RASFF that the sale in France of the suspected contaminated eggs was suspended as preventive measure (*fup16*).

First outbreak

The suspected product in this first outbreak was homemade **mayonnaise**, which was collected on 27 May 2026 from a patient's home. The microbiological analysis of the sampled mayonnaise revealed the detection of *S*. Enteritidis ST11, matching the national representative human strain in this first outbreak, according to the national WGS cluster analysis. The genomic profile of this strain has been assigned in EnteroBase[7] to HC5_3522/HC2_283133.
The epidemiological investigations associated with the positive homemade mayonnaise traced the eggs used for its preparation (eggs **Batch A**) to the Polish **Packing Centre A** and to the **Polish Farm A** (*fup13*, 2026.4993).

Second outbreak

The suspected product in this second outbreak was homemade **chocolate mousse**. There were no leftovers of chocolate mousse to be sampled.
The genomic profile of the national representative strain of this outbreak has been assigned in EnteroBase to HC5_305390/HC2_654628.
The epidemiological investigations traced the eggs used for the preparation of the homemade **chocolate mousse** (eggs **Batch B**) to the Polish **Packing Centre B** and the **Polish Farm B** (*fup13*, 2026.4993).

Third outbreak

The suspected product in this third outbreak was homemade **tiramisu** dessert. There were no leftovers of tiramisu dessert to be sampled. The genomic profile of the national representative strain of this outbreak has been assigned in EnteroBase to HC5_305390/HC2_654628.
The epidemiological investigations traced the eggs used for the preparation of the homemade **tiramisu dessert** (eggs **Batch B** and **Batch C**) to the Polish **Packing Centre B**, the **Polish Farm B** and the **Polish Farm C**, respectively (*fup13*, 2026.4993).

[7] https://enterobase.warwick.ac.uk/

Fourth outbreak

The suspected product in this fourth outbreak was homemade **mayonnaise**. The authority informed that the national representative strain of this outbreak matches the reference strain of the second and third outbreaks. There were no leftovers of mayonnaise to be sampled. However, four egg samples were collected at the patient's home. These eggs tested *S*. Enteritidis positive and matched the national representative human strain. The epidemiological investigations traced the sampled eggs (**Batch C**) to the Polish **Packing Centre B** and the **Polish Farm C** (*fup13*, 2026.4993).

Poland

In reply to the French requests of support, the food safety authority in Poland shared in RASFF the outcome of the national investigations carried out.

The authority informed that eggs **Batch A** originating from the Polish **Packing Centre A** and from to the **Polish Farm A** were delivered to France (**French Retailer A** Warehouse A) in May 2026 and were marked with an expiring date of May and June 2026. The authority also informed that the eggs Batch A were laid in Henhouse 1, which tested *Salmonella* negative on 10 December 2025 (official control), on 5 January and 18 April 2026 (own-check control), and on 25 June 2026 (official control) (*fup8*, *fup14*).

With regards to Packing Centre A, the authority informed that, as part of operator self-monitoring, this operator performs monthly environmental surface swab testing for the following parameters: total microbial count, *Enterobacteriaceae*, *Salmonella*, and *Listeria monocytogenes*. Swabs were collected on 25 May 2026. The results were compliant. On 14 May 2026, the competent authority collected environmental samples at the above-mentioned egg packing establishment as part of official supervision. On 18 May 2026, the test report was received, confirming that *Salmonella* spp. was not detected in the tested area.

Eggs Batch B originating from the Polish **Packing Centre B** and the **Polish Farm B** were delivered to France (French **Retailer A** Warehouse B and Warehouse C) in May 2026 and were marked with an expiring date of May 2026. The authority also informed that the eggs Batch B were laid in Henhouse 2, which tested *Salmonella* negative on 24 April 2026 (*fup7*). In addition, the authority informed that **Packing Centre B** was inspected. The authority reported in RASFF to have not identified any non-conformity and that *Salmonella* results were satisfactory (*fup7*). Furthermore, the authority reported that the **Polish Farm B** was inspected. The birds in Henhouse 2 originated from the company's own hatcheries and were vaccinated against *Salmonella* spp. at 5 days of age, 6 weeks of age, and 12 weeks of age using a vaccine administered via drinking water. Regular testing is carried out to assess the effectiveness of cleaning and disinfection procedures, including environmental swabs from floors, room corners, feeding equipment, ventilation systems and egg storage areas. The sampling carried out in the context of the national program for the control of certain *Salmonella* serotypes in laying flocks of *Gallus gallus* (2025–2027) revealed no *Salmonella* detection on 24 April 2026. The birds are fed with feed produced at the company's own feed manufacturing facilities. The authority informed RASFF that the feed testing conducted on 18 May 2026 did not detect *Salmonella*.

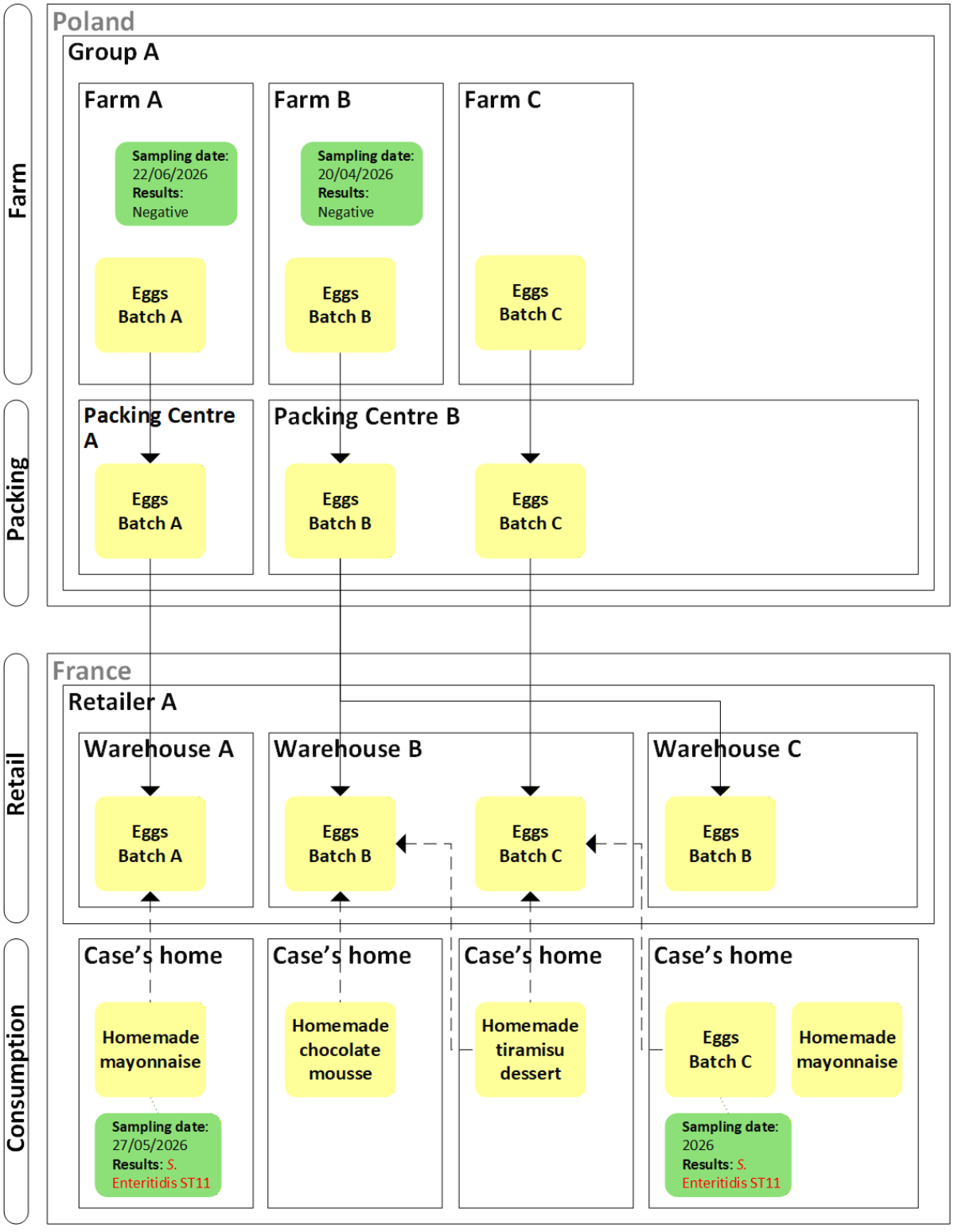
The food safety authority further provided the following information. As part of the investigation, dust and fecal samples were collected in official control on 19 June 2026 from Henhouse 2 in the context of the national program. The samples were collected from the same laying hen flock from which the batches of eggs in question originated. *Salmonella* spp. was not detected in any

of the seven samples examined. In addition, under the farm's internal Good Hygiene Practices and Good Manufacturing Practices procedures, environmental swab samples were collected on 26 June 2026 from egg-collecting equipment, the corner of the storage area and the storage floor. *Salmonella* was not detected in any of the samples tested.

With regards to Packing Centre B, the authority informed that, as part of operator self-monitoring, this operator performs microbiological testing for the detection of *Salmonella* in egg contents and from swabs on eggshell surface. Results revealed no detection of *Salmonella*. This operator also performs microbiological testing of environmental surface swabs for *Salmonella*, *Listeria monocytogenes* and *Enterobacteriaceae* counts. Trend analysis is carried out. In addition, storage tests are performed throughout the entire shelf-life period of table eggs. The authority informed that overall no irregularities were identified.

Eggs Batch C originating from the Polish **Packing Centre B** and the **Polish Farm C** were delivered in May 2026 to France (French **Group Retailer A** Warehouse B and Warehouse C) and were marked with an expiring date of May 2026.

With regards to the investigations carried out, the authority informed that eggs Batch C were laid in Henhouse 3. Between 17 and 19 June 2026, the flock kept in Henhouse 3 was sent for slaughter. At the time of this investigation, the poultry house was under renovation and remained unoccupied. The sampling carried out in the context of the national program for the control of certain *Salmonella* serotypes in laying flocks of *Gallus gallus* (2025–2027) revealed no *Salmonella* detection on 22 April 2026. At the farm, a regular own check is carried out every 15 weeks during the laying period.



Green boxes indicate sampling. Red text in green boxes indicates *S*. Enteritidis findings (outbreak strains). Yellow boxes indicate the products. Arrows indicate trace back and forward distribution. Boxes refer to affected food business operators and countries.

Figure 1. Graphical representation of the traceability and microbiological investigations related to egg-based products, as reported by the countries involved to RASFF (as of 27 July 2026)

4.2 Whole Genome Sequencing data

As of 5 August 2026, in response to the EFSA call for data, 15 genomic profiles of *S*. Enteritidis ST11 isolates were collected. Austria shared the profiles of four isolates from liquid egg products (sampled between May-June 2026); Denmark provided the profile of an isolate from a whole egg, which was sampled at retail level in April 2026, and originated from Poland; Italy shared five profiles of isolates from an egg product (tiramisu) (sampled during 2026); and France provided the profiles of one isolate from a homemade mayonnaise containing raw eggs (sampled in May 2026) (food vehicle in the first outbreak) and the profiles of four isolates from three whole eggs and one eggshell (sampled in July 2026) (suspected food vehicles in the fourth outbreak linked to homemade mayonnaise). Estonia, Ireland, Lithuania, and Netherlands replied that they did not have isolates with the requested characteristics. Romania informed that such isolates were available, but that the sequences were not.

In addition to the data received in the frame of the call for data, the EFSA WGS System contains 1,213 *S.* Enteritidis ST11 isolates submitted by 20 countries. Submissions were unevenly distributed across countries: the Netherlands accounted for the largest proportion (28.9%), followed by Belgium, Sweden, Germany and Denmark. Together, these five countries contributed approximately 77.9% of all submissions. The WGS System contains the genomics profiles of the isolates Poland submitted in the context of the 2016-2020 outbreak (ECDC and EFSA, 2020). Sample information was available for 92.5% of the submissions. Overall, the dataset was dominated by non-food matrices (763 entries; 62.9%), particularly laying-hen boot swabs, which represented 403 entries, corresponding to 52.8% of non-food matrices and 33.2% of all submissions. Food matrices accounted for 341 submissions (28.2%), while feed matrices represented 18 submissions (1.5%). Using a broad farm-to-fork definition, approximately 570 submissions (47%) were linked to egg production, largely driven by laying-hen primary production samples, especially boot swabs. Most entries (81.5%) were associated with at least one of the 78 *S.* Enteritidis single-linkage clusters[8] defined by ECDC. The number of food or non-human isolates matching ECDC clusters ranged from 1 to 429, with a median of 4. Nineteen clusters included only one matching isolate, whereas 11 clusters included 50 or more matches; the largest cluster included 429 non-human matches. No clear evidence was observed of a meaningful difference in the distribution of sample matrices between isolates matching ECDC clusters and those with no match.

The 15 genomic profiles collected during the data call were used as references to query both the EFSA and ECDC databases, using a threshold of 5 allelic differences (5 AD). Overall, the query returned 56 profiles, comprising 13 non-human and 43 human profiles collected between 2019 and 2026. Notably, no matches were identified with non-human isolates associated with the previous 2016-2020 outbreak (ECDC and EFSA, 2020).

When the analysis was restricted to 2026 data (19 profiles in total), only two clusters included both human and non-human profiles, with profiles within each cluster differing by no more than 4 AD. One of the two clusters comprised the French profiles of isolates from eggs linked to the fourth outbreak in France (No 4-7, Figure 2), associated with homemade mayonnaise. It also

[8] At EU level, the ability to identify multi-country and cross-sectoral outbreaks depends on the national data sharing strategies in both sectors that impacts the volume of the data submitted to EFSA and ECDC by the Member States.

included five Italian profiles (No 8-12, Figure 2) from isolates collected from an egg product (tiramisu) and three human profiles (No 13-15, Figure 2), one from France and two from other countries. The second cluster comprised two Austrian profiles (No 17-18, Figure 2) submitted through the data call and one human profile (No 19, Figure 2) from a country other than France.

The French profile (No 3, Figure 2) from the homemade mayonnaise isolate linked to the first outbreak did not show any relevant 2026 match in the EFSA or ECDC databases. Likewise, no relevant 2026 matches were identified for the remaining two Austrian non-human profiles (No 1-2, Figure 2) or for the Danish profile (No 16, Figure 2) submitted through the same data call.

No	Db	Sample matrix	Country	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
1	EFSA	Liquid egg product	Austria	0	0	60	45	43	44	45	44	44	44	44	45	43	45	44	47	51	50	48
2	EFSA	Liquid egg product	Austria	0	0	60	45	43	44	45	44	44	44	44	45	43	45	44	47	51	50	48
3	EFSA	Homemade mayonnaise[1]	France	60	60	0	58	56	57	58	57	57	57	57	58	56	58	57	59	63	62	60
4	EFSA	Eggshell[2]	France	45	45	58	0	2	2	3	3	3	3	3	4	2	4	3	9	14	13	11
5	EFSA	Whole eggs[2]	France	43	43	56	2	0	1	2	1	1	1	1	2	0	2	1	7	12	11	9
6	EFSA	Whole eggs[2]	France	44	44	57	2	1	0	2	2	2	2	2	3	1	3	2	8	13	12	10
7	EFSA	Whole eggs[2]	France	45	45	58	3	2	2	0	3	3	3	3	4	2	4	3	9	14	13	11
8	EFSA	Tiramisu	Italy	44	44	57	3	1	2	3	0	0	0	0	1	1	3	0	8	13	12	10
9	EFSA	Tiramisu	Italy	44	44	57	3	1	2	3	0	0	0	0	1	1	3	0	8	13	12	10
10	EFSA	Tiramisu	Italy	44	44	57	3	1	2	3	0	0	0	0	1	1	3	0	8	13	12	10
11	EFSA	Tiramisu	Italy	44	44	57	3	1	2	3	0	0	0	0	1	1	3	0	8	13	12	10
12	EFSA	Tiramisu	Italy	45	45	58	4	2	3	4	1	1	1	1	0	2	4	1	9	14	13	11
13	ECDC			43	43	56	2	0	1	2	1	1	1	1	2	0	2	1	7	12	11	9
14	ECDC			45	45	58	4	2	3	4	3	3	3	3	4	2	0	3	9	14	13	11
15	ECDC			44	44	57	3	1	2	3	0	0	0	0	1	1	3	0	8	13	12	10
16	EFSA	Whole egg	Denmark	47	47	59	9	7	8	9	8	8	8	8	9	7	9	8	0	15	14	12
17	EFSA	Liquid egg product	Austria	51	51	63	14	12	13	14	13	13	13	13	14	12	14	13	15	0	3	3
18	EFSA	Liquid egg product	Austria	50	50	62	13	11	12	13	12	12	12	12	13	11	13	12	14	3	0	2
19	ECDC			48	48	60	11	9	10	11	10	10	10	10	11	9	11	10	12	3	2	0

Allelic difference scale

0 10 20 30 40 50 60

[1]Genomic profile linked to the first outbreak
[2]Genomic profiles linked to the fourth outbreak
No: Profile number
Db: Database

Figure 2. Pairwise allelic-distance analysis of 2026 human and non-human *Salmonella* Enteritidis ST11 cgMLST profiles. Each cell shows the number of allelic differences between two profiles.

4.3 Zoonoses database data

Based on data reported to EFSA by countries in accordance with Directive 2003/99/EC and published in the EU One Health Zoonoses Reports, *Salmonella* remains a major foodborne outbreak agent in the EU, and eggs and egg products continue to represent an important food vehicle. In 2024, *S.* Enteritidis represented 58.4% of typed EU-acquired human salmonellosis infections and 38.5% of *Salmonella*-positive laying-hen samples. The EFSA *Salmonella* dashboard shows the percentage of *Gallus gallus* laying-hen flocks positive for *S.* Enteritidis by country and year. The highest percentages reported were generally observed in Cyprus (5.5 to 6.4%) in 2020–2022, Malta (8.1%) in 2020, Lithuania (6.9%) in 2021, Estonia (4.3%) in 2023, and the Netherlands (3.3 to 3.8%) in 2023–2024. In recent years, Poland consistently reported

values around or above 2%, while France remained between 1% and 2% across the whole period considered.

Concerning foodborne outbreaks in EU, reporting of *Salmonella* as causative agent increased from 773 outbreaks in 2021 to 1,238 in 2024, with outbreak-associated human cases rising from 6,755 to 10,164 over the same period. Over this period, *S.* Enteritidis remained the main serovar reported in *Salmonella* foodborne outbreaks, accounting for 350 of 773 outbreaks in 2021 and increasing to 512 of 1,238 outbreaks in 2024. In 2024, *Salmonella* outbreaks resulted in 1,823 hospitalisations and 17 deaths. In the same year, eggs and egg products were implicated in 83 strong-evidence outbreaks caused by *Salmonella*, 31 of which were caused by *S.* Enteritidis. In 2024, France reported 266 *Salmonella* foodborne outbreaks, including 36 caused by *S*. Enteritidis, representing the second highest number among reporting countries and an increase compared with 2023. For the strong-evidence outbreaks caused by *Salmonella* and eggs/egg products agent-food pair, France reported 13 outbreaks, 64 human cases and 13 hospitalisations in 2024, supporting the relevance of this food vehicle in the national context of the present incident.

5 Discussion and Conclusions

Salmonella remains one of the leading causes of foodborne outbreaks in the EU. *S*. Enteritidis is the serovar most frequently reported in outbreak settings (EFSA and ECDC, 2025) with eggs and egg products consistently identified among the highest-risk food vehicles. This pattern is supported by evidence of the adaptation of *S*. Enteritidis to poultry production systems and its international dissemination through poultry breeding and trade networks (Li et al., 2021).

The dominant sequence type of this serovar, ST11, comprises several distinct phylogenetic lineages, each characterised by limited within-lineage genomic diversity, even among isolates collected in different countries and years (Zhou et al., 2026; Luo et al., 2021). This limited diversity can result in the detection of genetically near-identical isolates in epidemiologically unrelated contexts. This is why the EFSA WGS profiles associated with ECDC clusters, together with historical profiles in the EFSA WGS database matching the French isolates, should be interpreted as indicating possible genetic relatedness, rather than direct evidence of a recent common source. WGS remains the tool for identifying microbiological links and generating hypotheses, but the confirmation of the source of an outbreak requires robust epidemiological and traceability evidence.

This food contamination incident was characterised by the identification of four distinct outbreaks geographically dispersed in France, within a short temporal frame (May-July 2026) and with epidemiological and microbiological evidence indicating homemade products containing eggs as vehicle of *S*. Enteritidis ST11 infections. This was further supported by the identification of five food isolates, collected from eggs and egg-based products sampled at the patients' homes, that belong to two distinct strains. These isolates matched the two human representative strains of the four French outbreaks.

Food traceability investigations from these four distinct outbreaks in France converged on a common egg distribution network involving two packing centers and three farms (three henhouses), belonging to the same food group in Poland. These three farms had already been implicated in the persistent polyclonal multi-country outbreak of salmonellosis associated with contaminated eggs that affected 18 countries in Europe between 2016 and 2020 (ECDC and EFSA, 2020; Sarno et al., 2021). Similar to the 2016-2020 outbreak, this food incident involved

multiple *S*. Enteritidis ST11 strains, however no genomic link was identified between historical isolates and the isolates collected in France in 2026.

The repeated detection of *Salmonella* in products with eggs traced back to the Polish group suggests persistent *Salmonella* contamination or possible reintroduction upstream in the egg production chain. This highlights the need for further investigations to identify the possible root causes of vertical and/or horizontal egg contamination. This also requires effective implementation of *Salmonella* surveillance and control measures across all levels of the laying-hen production pyramid. Moreover, the detection of a human and non-human cluster spanning France and other countries in 2026 suggests the possible cross-border dimension of the incident and warrants further investigation.

6 Recommendations

Food safety authorities are encouraged to share in the EFSA WGS system any sequences of *S.* Enteritidis ST11 from food and environmental isolates linked to the present incident, either microbiologically (serotype or sequence type) or epidemiologically (e.g. suspected food items reported by patients) and share in RASFF the traceability information related to the foods from which these sequences were derived. They are also encouraged to work closely with the public health authorities should cases of infections linked to the representative national strains be identified. Consumers are advised to follow good hygiene practices when handling eggs and egg products, including thorough handwashing, prevention of cross-contamination, and proper cleaning of food-contact surfaces. Eggs and egg-based foods should be stored under refrigeration and consumed within their shelf life.

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Abbreviations

AD	Allelic Distance
EC	European Commission
ECDC	European Centre for Disease Prevention and Control
EFSA	European Food Safety Authority
fup	Follow-up
RASFF	Rapid Alert System for Food and Feed
ST	Sequence Type
WGS	Whole Genome Sequencing