



# **Joint EFSA-ECDC ROA on multi-country outbreak of *Listeria monocytogenes***

**Valentina Rizzi, scientific officer,  
BIOCONTAM Unit**

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## BACKGROUND INFORMATION

- 3 Nov 2017, Urgent Inquiry (UI) from Finland in EPIS FWD
- Three *L. monocytogenes* clusters, confirmed by WGS
- Cases from different parts of Finland in 2017

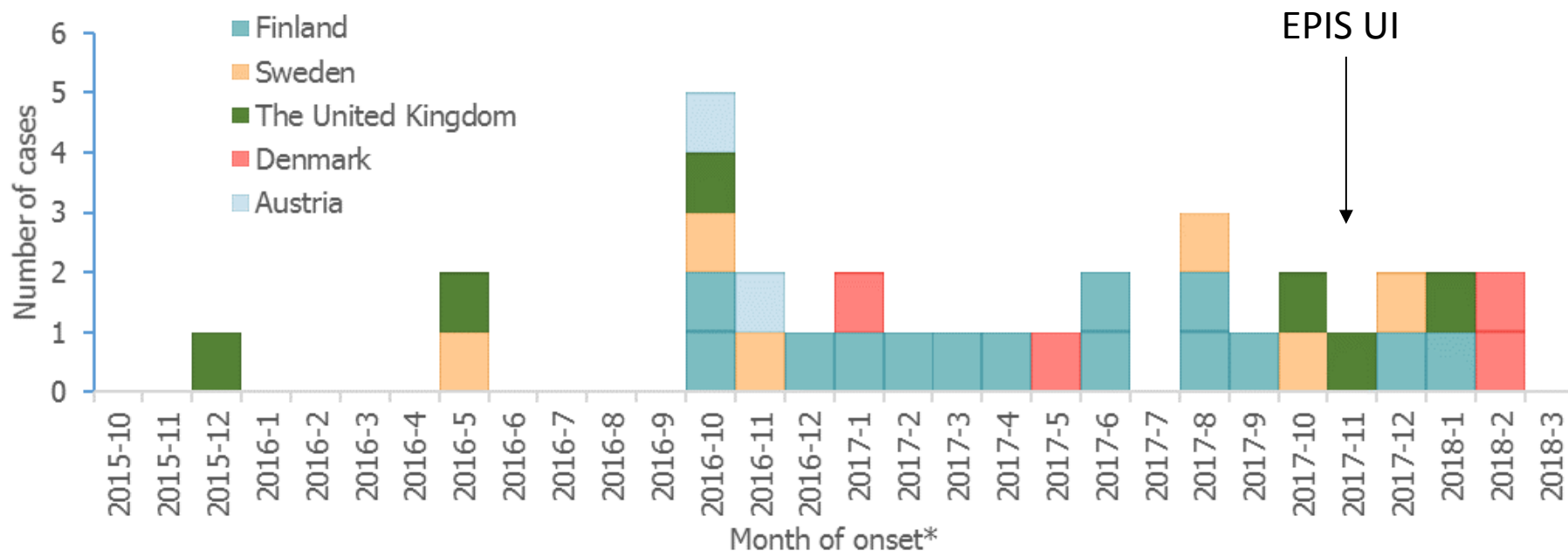
### One of three clusters showed matches with human cases in other countries

- *L. monocytogenes* serogroup IVb, ST6
  - December 2015 - January 2018
- For this cluster, the **multi-country** dimension was confirmed through WGS

Country	Confirmed cases (No. of deaths)				Total number of cases	Total number of deaths
	2015	2016	2017	2018		
Austria	0	2 (1)	0	0	2	1
Denmark	0	0	2	2 (1)	4	1
Finland	0	3	10 (2)	1	14	2
Sweden	0	3 (1)	3 (1)	0	6	2
UK	1	2	2	1	6	0
<b>Total</b>	<b>1 (0)</b>	<b>10 (2)</b>	<b>17 (3)</b>	<b>4 (1)</b>	<b>32</b>	<b>6</b>

# DESCRIPTION OF HUMAN DATA

*Listeria monocytogenes* IVb, ST 6 confirmed outbreak cases by month of symptom onset, EU 2015–2018 (N=32)



# ASSESSMENT OF MOLECULAR TYPING INFORMATION

Joint WGS analysis of human and non-human isolates performed by ECDC, EURL *Lm* and EFSA

- **ECDC:** raw sequence data from human *L. monocytogenes* isolates matching the outbreak case definition.
- **EURL *Lm*:** sequence data on non-human isolates from the NRL *L. monocytogenes* network.

**Table 2. *Listeria monocytogenes* isolates within seven allelic differences from the *L. monocytogenes* ST6 Finnish representative outbreak strain in cgMLST**

Country	Number of human isolates (No. of differing cg alleles from the FI representative outbreak strain)	Number of non-human isolates (No. of differing cg alleles from the FI representative outbreak strain)
Austria	2 (1-2)	2 (1)
Denmark	4 (1-5)	-
Finland	14 (0-5)	2 (4)
France	-	1 (2)
Sweden	6 (1-2)	1 (2)
United Kingdom	6 (1-4)	-
<b>Total</b>	<b>32 (0-5)</b>	<b>6 (1-4)</b>

## DESCRIPTION OF FOOD DATA

### ➤ Food source

Six non-human *L. monocytogenes* isolates (from 2016 to January 2018) detected in Austria, Finland, France and Sweden closely related (by WGS) to the multi-country cluster of *L. monocytogenes* serogroup IVb, ST6 → **strong microbiological link.**

- 2 isolates in frozen corn from Finland
- 1 isolate in frozen corn from Sweden
- 2 isolates from frozen vegetable mixes containing corn in Austria
- 1 isolate from environmental sample in France\*



**The only common food item in all non-human samples was corn.**

*\*from a food processing plant where different vegetable products (including soft corn grains) had been processed*

# INFORMATION ON FOOD EXPOSURE

## ➤ Patients interviews

Information on exposure to corn was not routinely requested in the national questionnaires in the affected countries.

**Consumption of frozen corn:** confirmed by two patients:

- one patient in Finland: consumption of frozen corn of one suspected brand, supporting an epidemiological link between the outbreak cases and frozen corn.
- one patient in Sweden: consumption of frozen corn, information on brand not available.

These support an **epidemiological link** between outbreak cases and frozen corn.

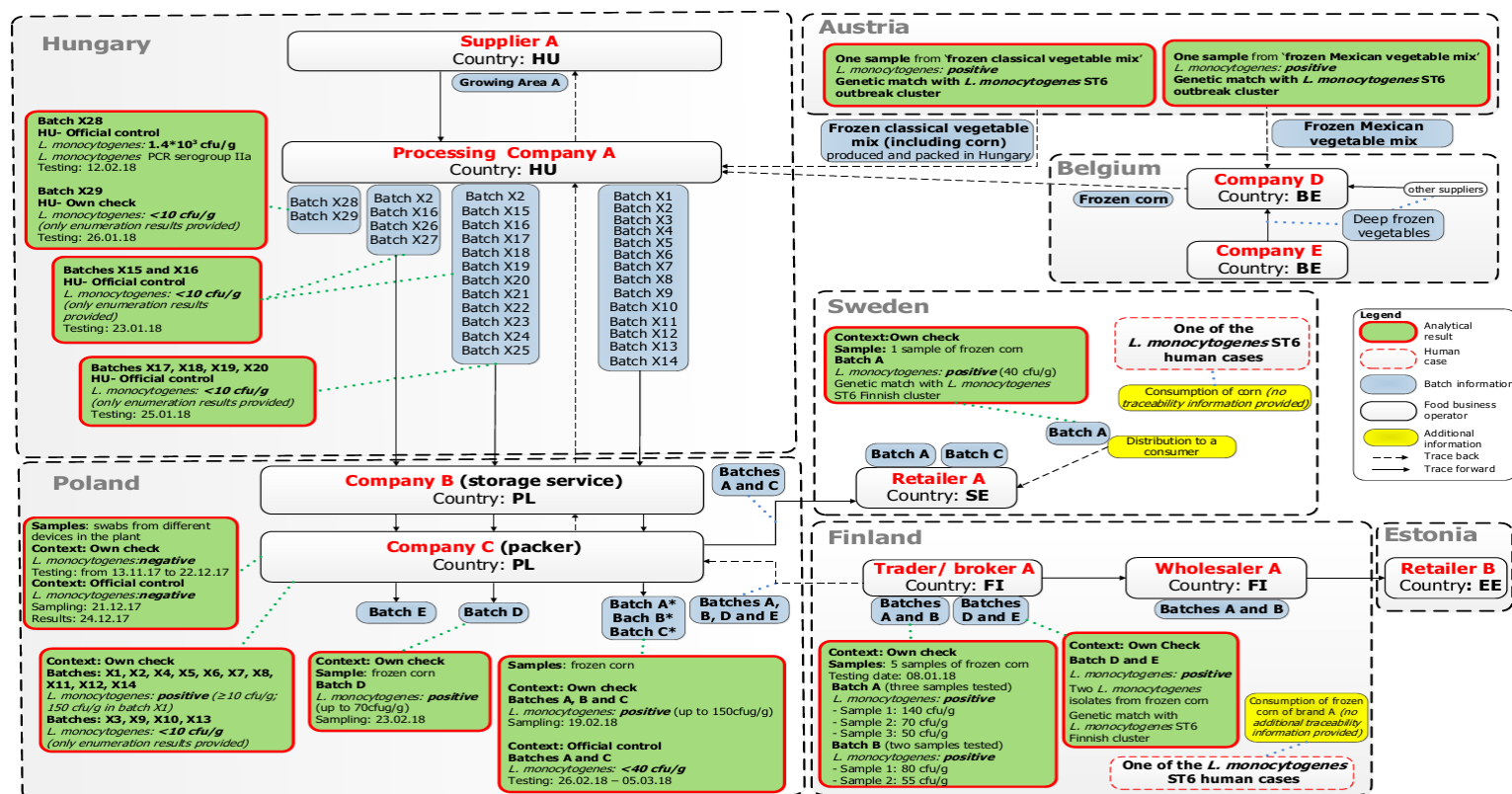
No traceability/microbiological information available for the corn consumed by both patients.



# FOOD AND ENVIRONMENTAL INVESTIGATIONS

## Source of the country-specific information

- RASFF (News 17-849 and Alert 2018.0216)
- Directly to EFSA by National Competent Authorities
- EURL for *L. monocytogenes* (EURL Lm)



Graphical representation of traceability and testing information available in RASFF or provided by MSs to EFSA, as of 21 March 2018

# CONCLUSIONS

## **Traceability information** of the 6 non-human strains

- Three strains from frozen corn products packed in Poland and processed/produced in Hungary
- Two strains from frozen vegetable mixes (including corn): the corn had the same common origin from Hungary

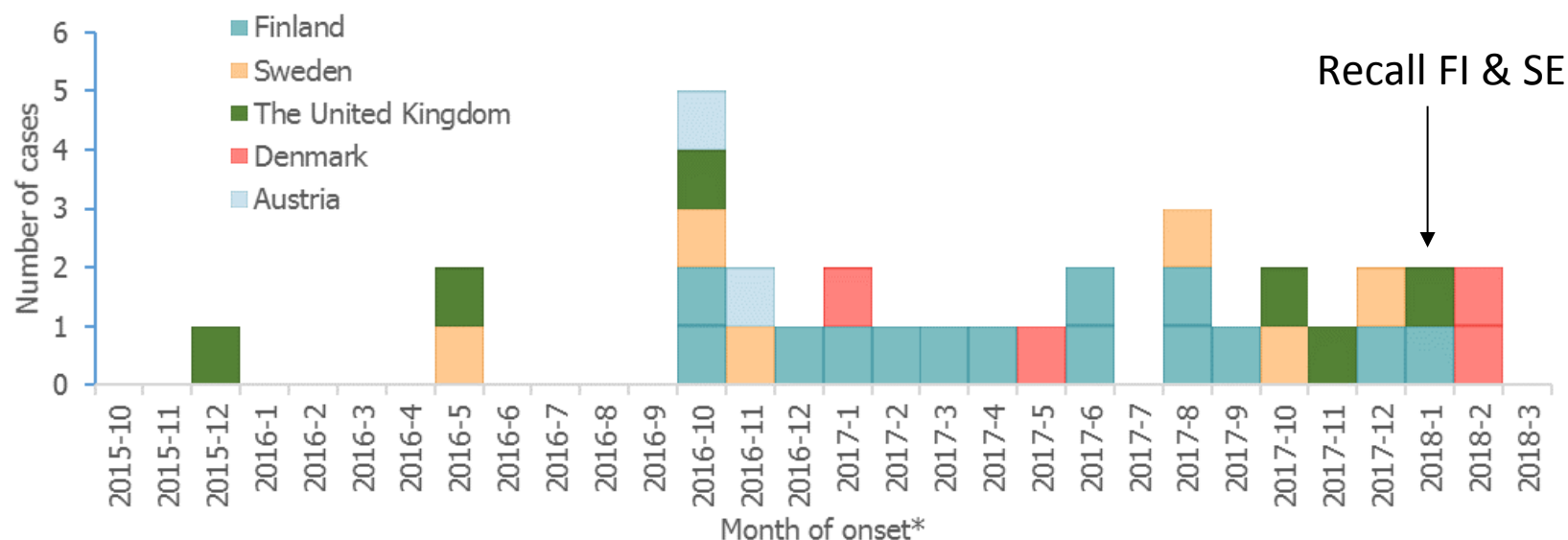
**Further investigations are needed to verify the point of contamination in the food chain.**



# CONCLUSIONS

## Control measures

- Food business operators in Estonia, Finland, Poland and Sweden have withdrawn and recalled the implicated frozen corn products from the market
- These measures are likely to significantly reduce the risk of human infections in these countries.



# CONCLUSIONS

## Options for response

- Consumers should consider adequately **heat treating** frozen vegetable products that are not 'ready-to-eat products'.
- Competent authorities should **report new human cases associated with this event in EPIS-FWD** and consider interviewing new and recent listeriosis cases about consumption of frozen corn and other frozen vegetables.
- The **EURL *Lm* can support the Member States** by performing WGS analysis of non-human isolates for strains possibly related to the outbreak.
- Competent authorities of public health and food safety sectors are encouraged to continue **sharing information** on the epidemiological, microbiological and environmental investigations, including tracing information, **by issuing relevant notifications using EWRS and RASFF.**

## ON-GOING ACTIVITIES

On 11 April 2018 EFSA was requested to produce, in collaboration with ECDC, an **update of the ROA on *Listeria* ST 6**.

On 7 May EFSA received an **urgent request** from the Commission to provide **recommendations for sampling and testing in the processing plants of frozen vegetables** aiming at detecting *Listeria monocytogenes* → deadline 29 June.

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