



UK Health
Security
Agency

National Outbreak of *Listeria monocytogenes* Associated with a Frozen Vegetable Producer (CC20 t25.7)

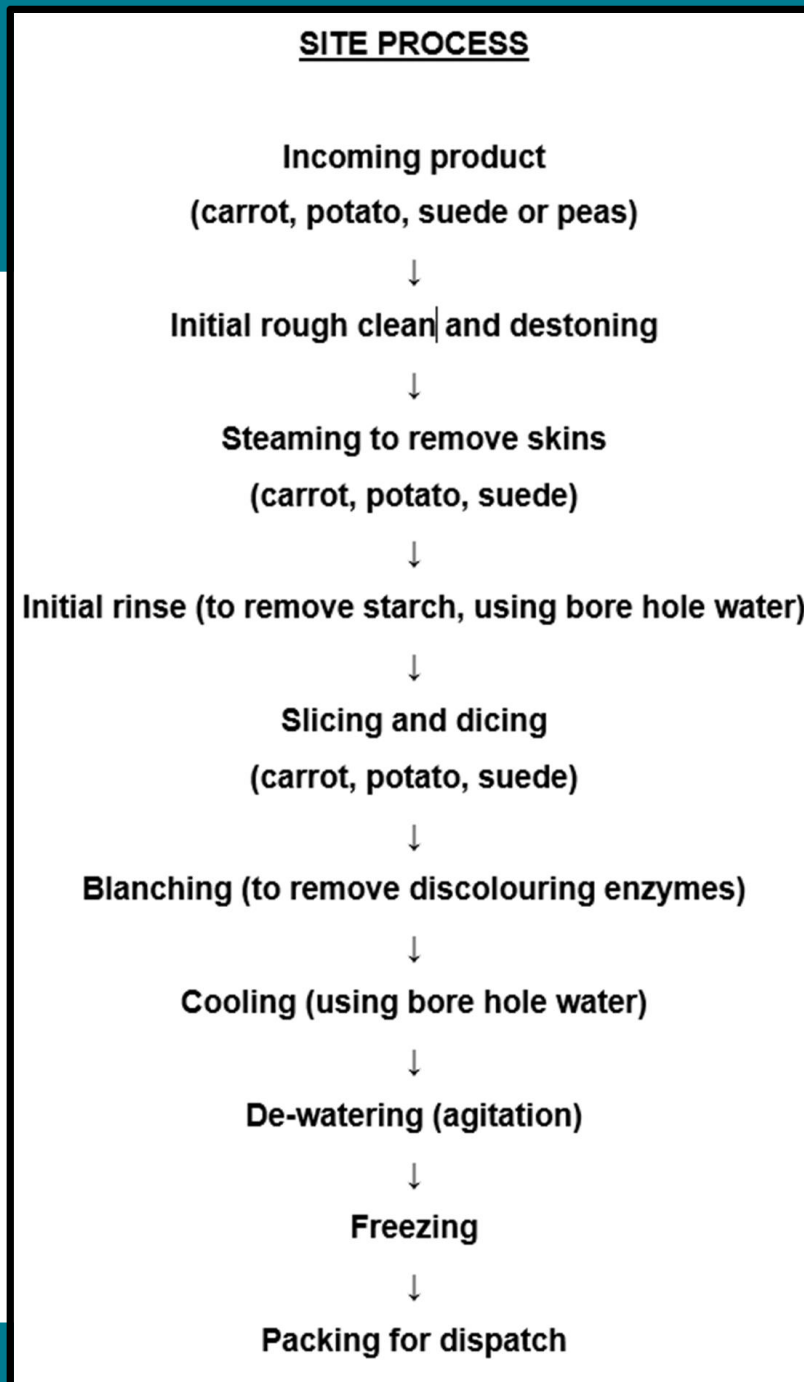
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Background

- Seven cases (onset 2016 – 2021, 4 deaths), geographically spread across the UK were linked with *Listeria monocytogenes* (CC20) in a 25 Single Nucleotide Polymorphism (SNP) distance cluster.
- *L. monocytogenes* isolates within a distance of 5 or 10 SNPs are usually investigated and in April 2022, isolates from one case and a food sample from a vegetable producer matched within 5 SNPs distance.
- Sequencing of isolated *L. monocytogenes* from food and environmental samples from this producer allowed the identification of isolates phylogenetically within a 25 SNPs cluster, capturing six more cases from previous years and isolates from food and environmental samples from 10 other food businesses and retailers since 2013 with links to this producer.

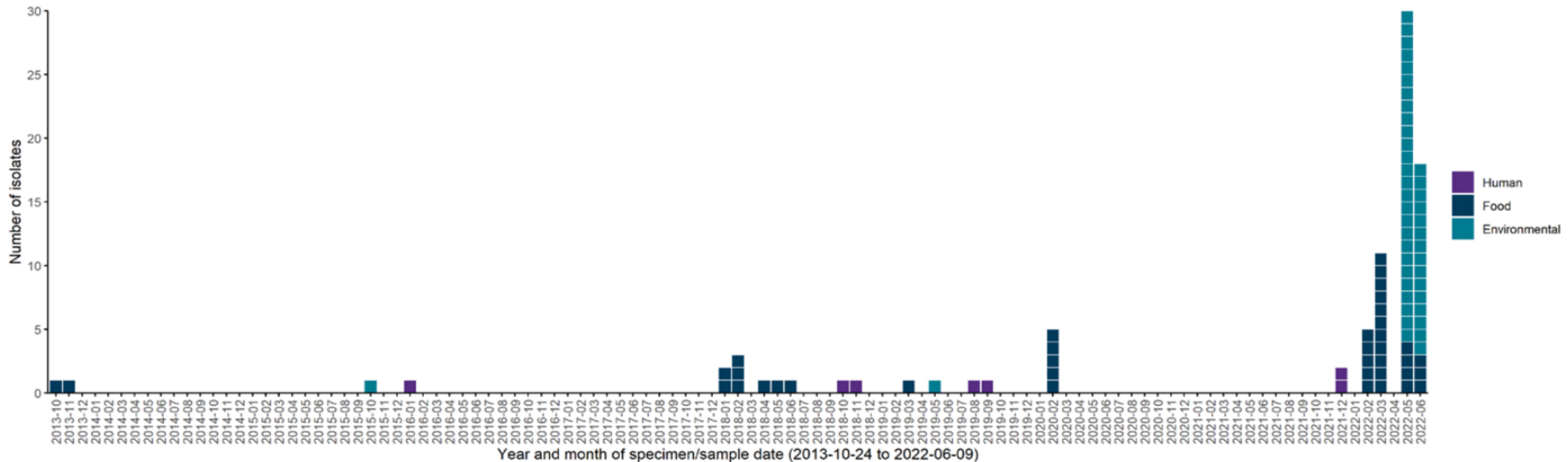
Process summary



Epidemiological curve

Figure 1. Epi curve of lab-confirmed cases and food/environmental isolates in the *L. monocytogenes* CC20 t25.7 cluster

(a) 2013 - 2022



Sample results – May – Oct 2022

- Between May 2022 and October 2022, four separate site visits were made to the vegetable producer and food, water and environmental swab samples were taken.

***L. monocytogenes* CC20 t.25.7 cluster**

	Number taken	Positive for <i>L. monocytogenes</i> (%)
Food samples	16	8 (50)
Swab samples	74	32 (43.2)
Water samples	15	5 (33.3)

Conclusions

- Cooling equipment – source of contamination spreading throughout the factory and to the food products.
- Water prior to cooling all tested negative.
- Cooling equipment had not been fully dismantled and therefore cleaning and disinfection was not properly effective and biofilm build-up had occurred.
- No rotation of disinfectant had occurred. Food produced is frozen with a 2 year shelf life, passing through a complex trail of food businesses until use.
- A programme of immediate and long-term control measures was instigated and subsequent testing has often proved satisfactory.

Points to consider

- This factory does not produce ready-to-eat (RTE) food and so for many years, *Listeria* was not investigated during routine microbiological controls.
- Labelling of this food did not make clear it required further processing/cooking.
- Although not RTE, this food has still been eaten without further processing, causing illness.