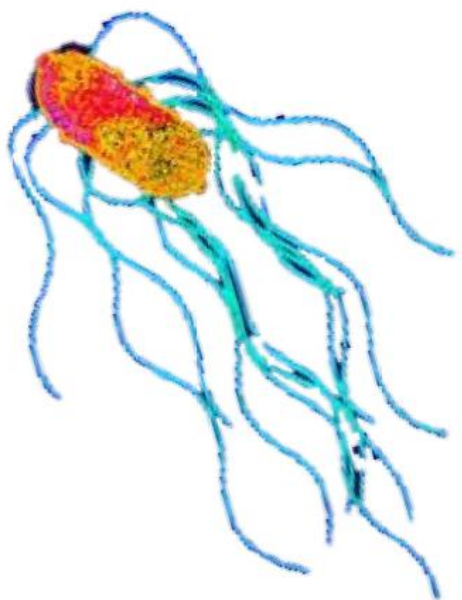


AUGMENTED DIAGNOSTICS FOR POULTRY OPERATIONS

FROM DETECTION TO PROCESS RISK MANAGEMENT

Salmonella



Salmonella

Salmonella enterica* subsp *enterica

Enterobacteriaceae

2,600 serotypes

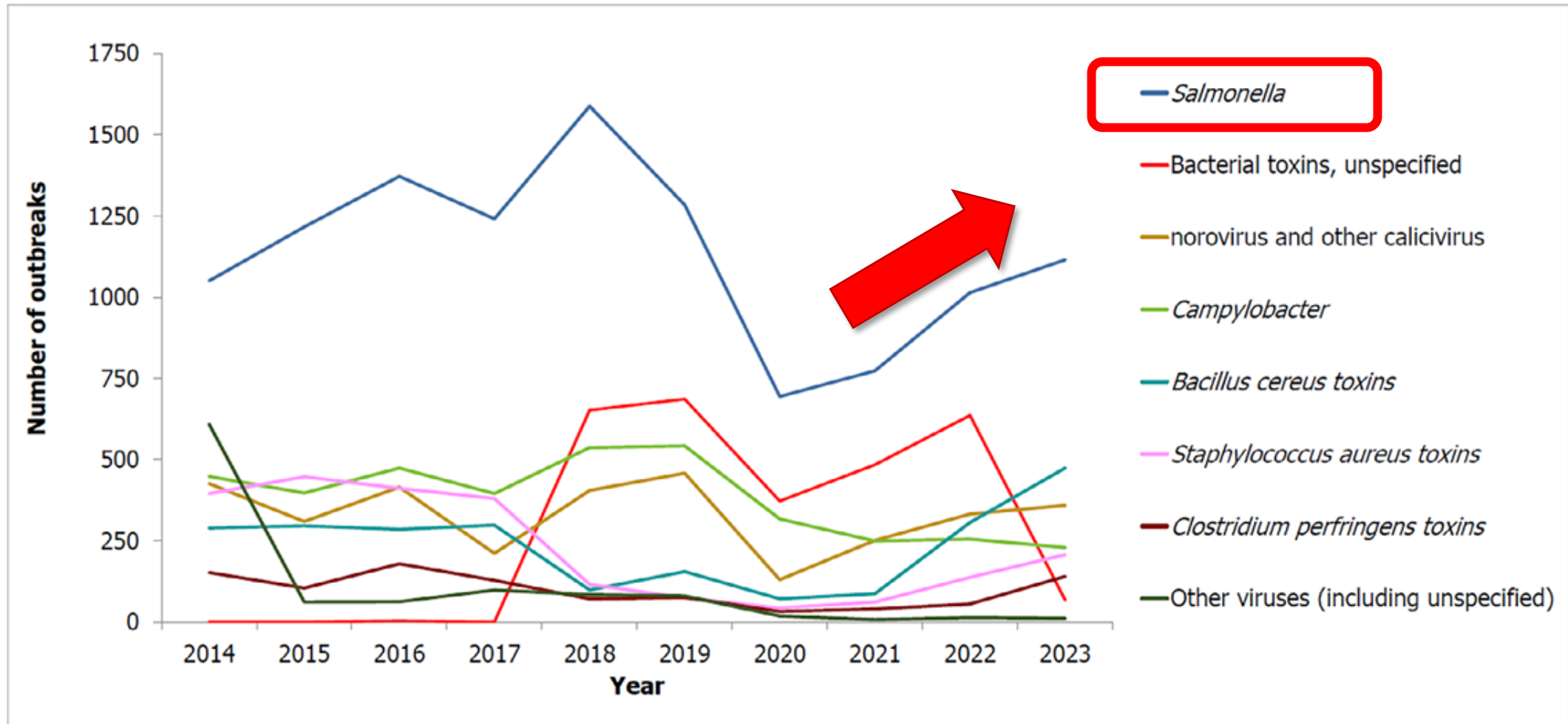
Gram-negative

Lives in the intestines of animals and humans

Spread via fecal oral route

Salmonellosis. 80,000 cases confirmed in EU in 2024

EVOLUTION OF THE NUMBER OF EU OUTBREAKS



Strong Evidence EU Outbreak 2024 Origin

N of Outbreaks

Austria	21	Germany	21	Netherlands	21
Belgium	7	Greece	7	Poland	7
Bulgaria	0	Hungary	0	Portugal	0
Croatia	25	Ireland	25	Romania	25
Cyprus	0	Italy	0	Slovakia	0
Czechia	17	Latvia	17	Slovenia	17
Denmark	18	Lithuania	18	Spain	18
Estonia	6	Luxembourg	6	Sweden	6
Finland	1	Malta	1	UK (N. Ireland)	1
France	143				

Implicated food vehicles (Strong-evidence outbreaks)

Top food vehicles



Eggs and eggs products

83 Outbreaks



Mixed food

65 Outbreaks



Broiler meat (Gallus gallus) and products thereof

30 Outbreaks



Bakery products

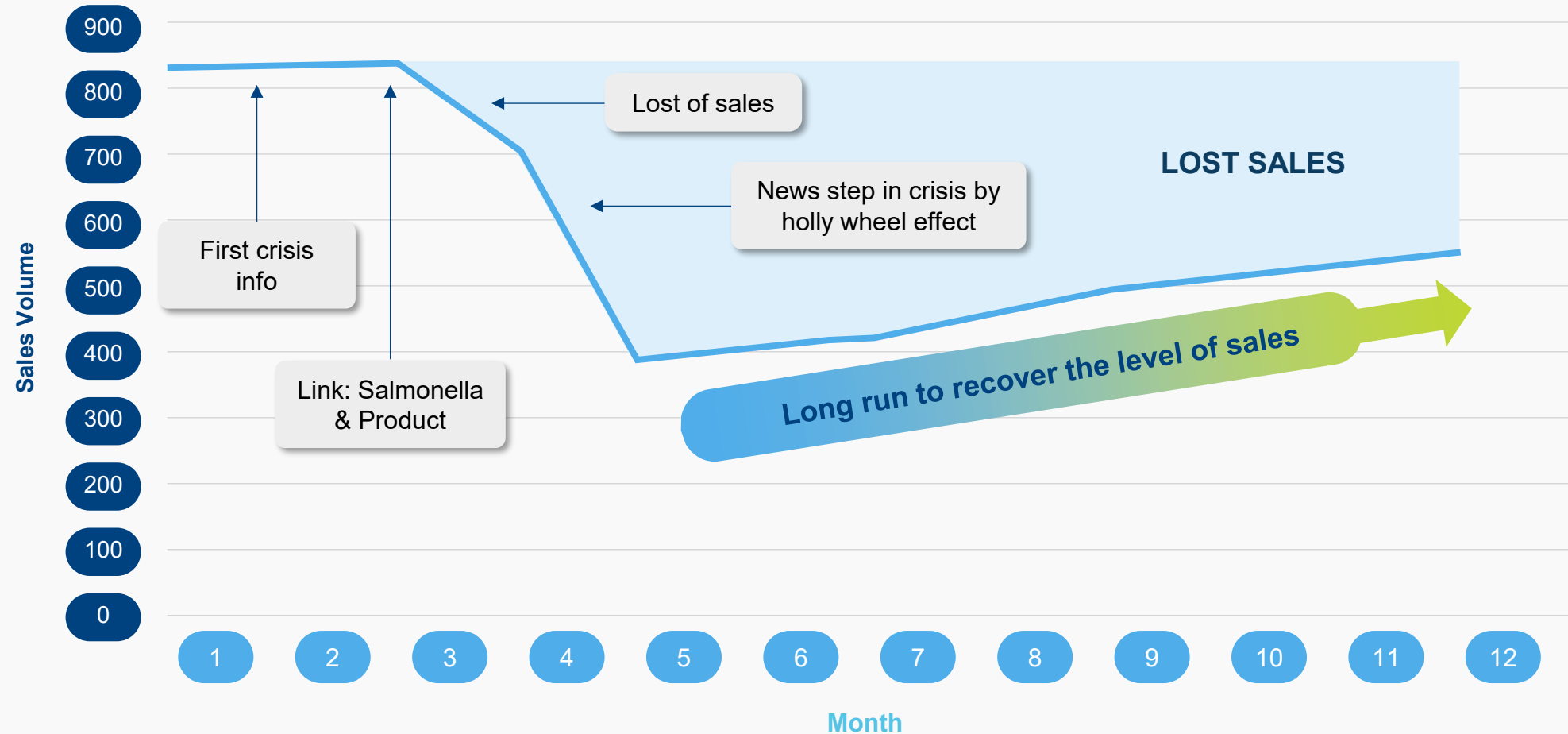
17 Outbreaks



Meat and meat products, unspecified

10 Outbreaks

From Market View: Direct Loss of Sales in Crisis Case



[HOW CAN WE SUPPORT THE POULTRY INDUSTRY ?]





Augmented Diagnostics for
Poultry Operations:
From Detection to Process
Risk Management

SHIFT OF MINDSET: MOVING FROM HAZARD BASED TO RISK BASED POLICY & INTEGRATED SYSTEMS

US



**RISK-BASED PROCESS
CONTROL**
FOCUS ON CONTAMINATION
LEVELS AND PROCESS
PERFORMANCE

BRAZIL



**OPERATIONAL
PERFORMANCE**
DRIVEN BY EXPORT MARKETS
AND EFFICIENCY

EU

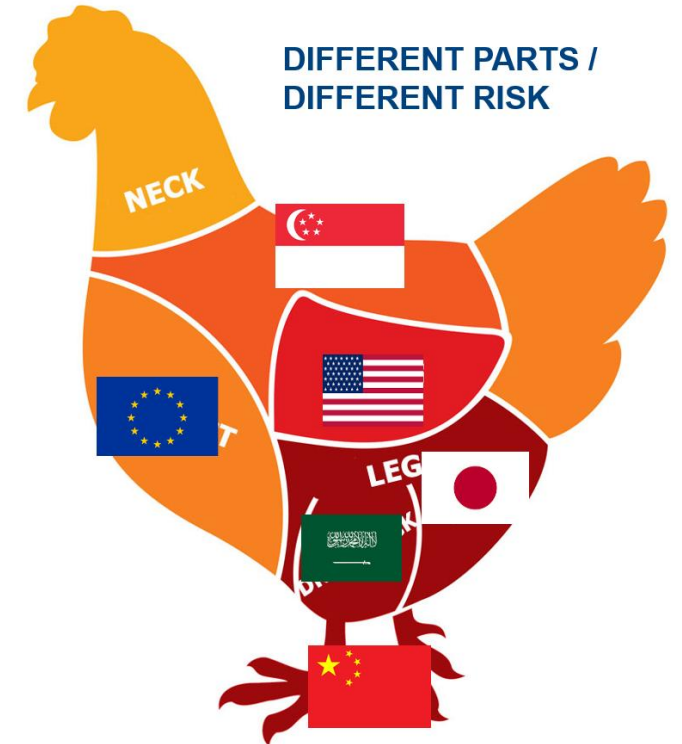


**FARM-TO-FORK
STRUCTURED SYSTEM**
STRONG SURVEILLANCE AND
INTEGRATED CONTROL

THAILAND



**EXPORT-INTEGRATED
SYSTEM**
ALIGNED WITH EU
MARKET REQUIREMENTS

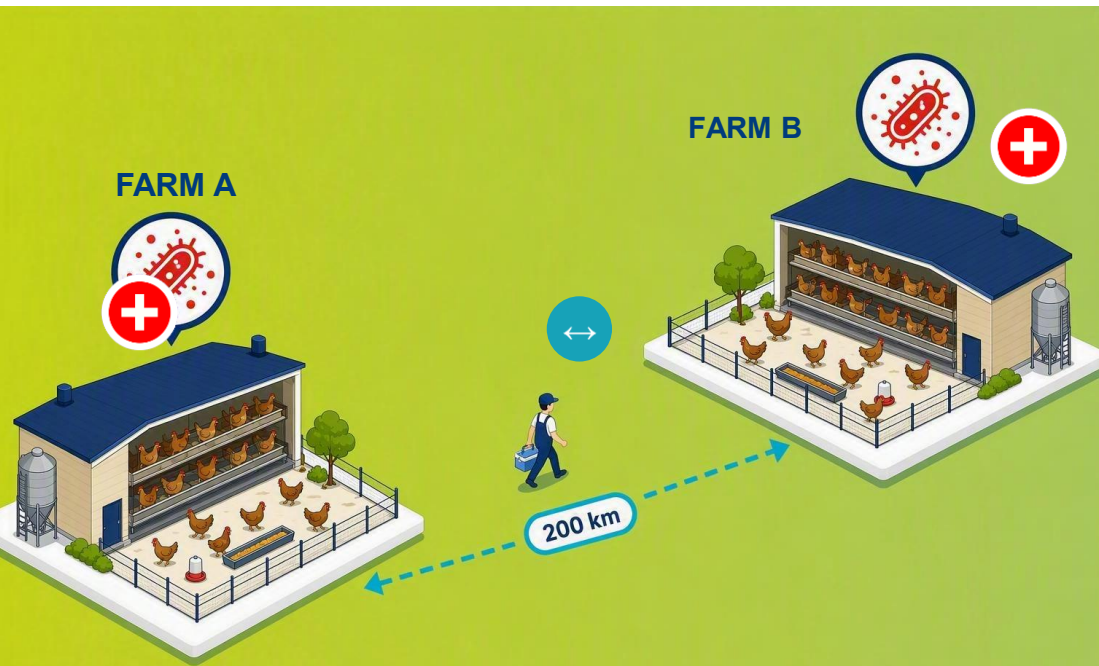


**PAST:
DETECTION &
COMPLIANCE**

**TODAY:
+ DATA & RISK
MANAGEMENT**

APPLICATION 1: TYPING TECHNOLOGIES

TWO FARMS. SAME SEROTYPE. ONE SOURCE.



Two laying hen farms | end of 2025

SIGNAL

Farm A + Farm B: *S. enteritidis*

COMPARISON

Same serotype – typing needed

SOURCE

GENE-UP® TYPER: shared pathway = staff movement

ACTION

Biosecurity procedures updated

PROOF INSTEAD OF ASSUMPTIONS

Typing identified a shared pathway linked to staff movement. Company updated its biosecurity procedures to reduce the risk of recurrence.

The same serotype can mean different sources, risks and decisions

APPLICATION 2: TYPING TECHNOLOGIES FROM SALMONELLA DETECTION TO SOURCE OF INFECTION

1. DETECTION



Salmonella detected
in 1-day-old chicks

2. TYPING

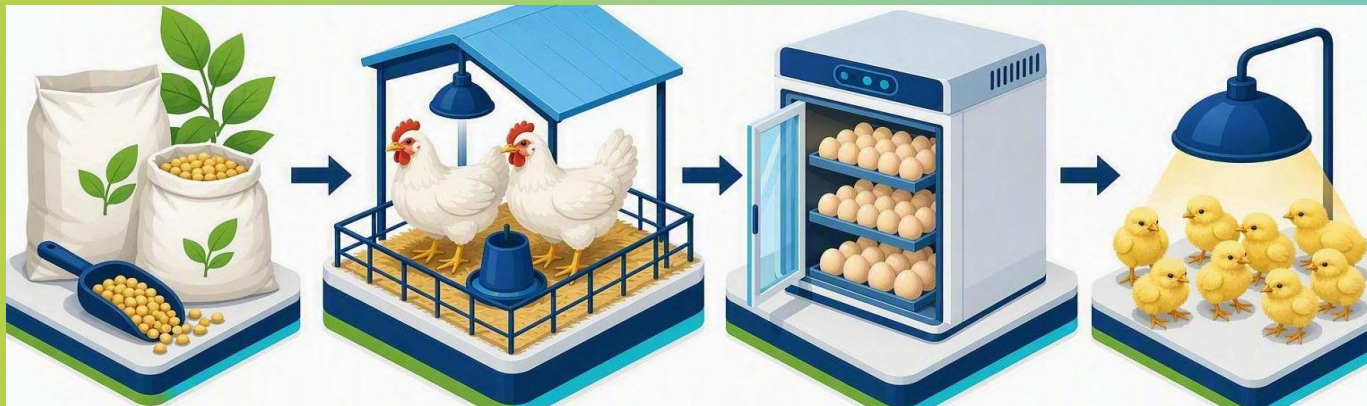
GENE-UP® TYPER

3. COMPARISON

COMPATIBLE PROFILE
Chicks ≈ feed

4. SOURCE

Layer feed =
Source of infection



FROM RESULT TO DECISION

Typing identified **feed as a common** source and allowed us to focus action on the cause – rather than assuming transmission between herds.

APPLICATION 3:BIOMAPPING AND LOT INDEPENDENCE STUDY

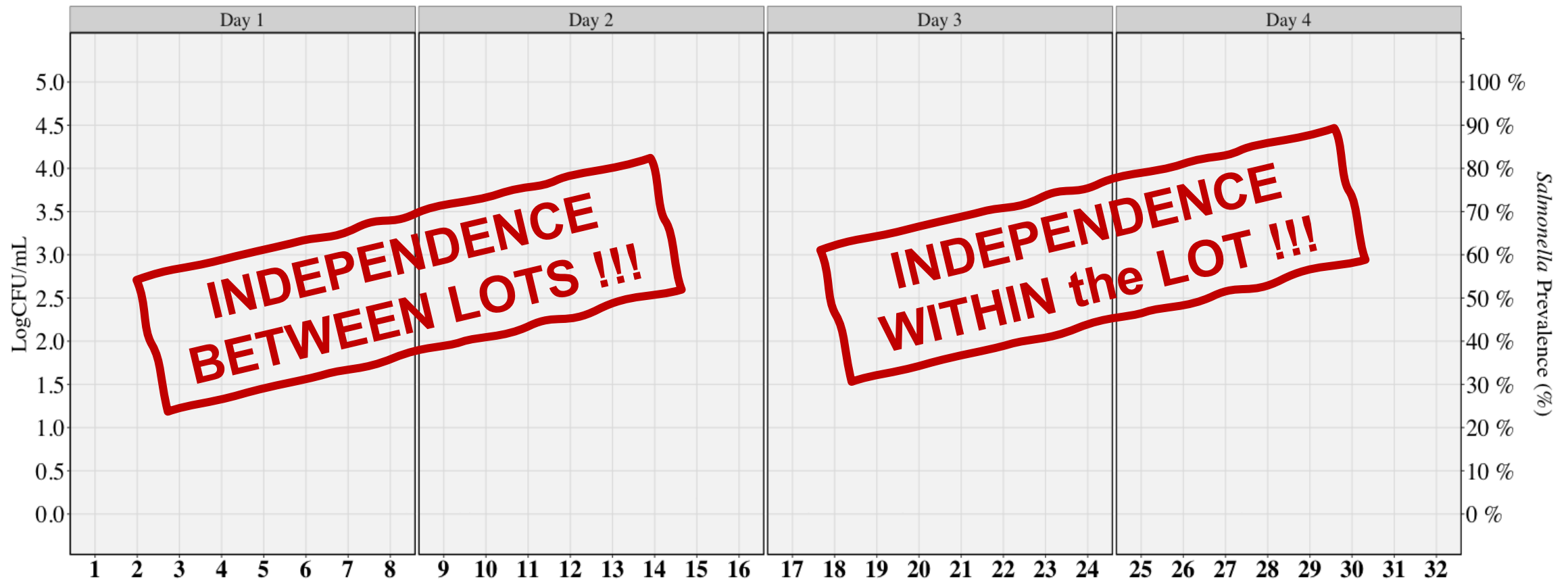
Problem and investigation objective

Uncertainty in **product lot definitions** to establish feasible sampling schedules and a pathogen control management system.

Study design and method

Comprehensive **Biomapping and Enviromapping of Secondary Processing Operations** to determine **lot independence between and within combo units** of different parts using loading of Salmonella in several US poultry sites.

Outcomes



KEY TAKEAWAYS

- Food safety & compliance = non-negotiable
- The challenge is not to detect salmonella, but to control it as a process risk-
- Traditional diagnostics alone are insufficient
- Its now ! diagnostic technologies and data analytics help industries to understand better and anticipate operational issues



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Or

Contact us



<https://www.biomerieux.com/corp/en/contact.html>



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Animal Protein



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PIONEERING DIAGNOSTICS