

CASE STUDY

WHAT TO DO WHEN AN ENVIRONMENTAL MONITORING PROGRAM FALLS SHORT OF SOLVING THE *LISTERIA* PROBLEM

Company X, a leading national supplier of prepared foods, was set with their environmental monitoring program. They had a well established in-house routine testing plan that included, among other common actions, monitoring *Listeria* species throughout their process flow. Their plan and testing protocols were effective and efficient in collecting samples and evaluating for the organisms of concern. In fact, Company X had been observing recurring *Listeria* presumptive results throughout their facility and operations for 14 months. The problem was that they had been unable to eliminate the *Listeria* or trace it back to a source. Company X was testing for *Listeria*, but they wanted to understand it in their process. They turned to Eurofins and Rheonix.

CHALLENGE

Contextualize and eliminate the *Listeria* contamination that Company X was finding in their environment through in-house testing by answering:

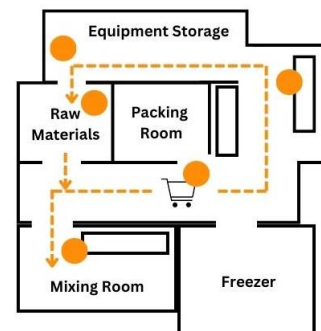
1. Is the *Listeria* we are seeing the same, persistent strain of *Listeria* or many unassociated strains?
2. Is there a pattern to the *Listeria* recurrences that can help us to identify a root cause of the contamination?

APPROACH

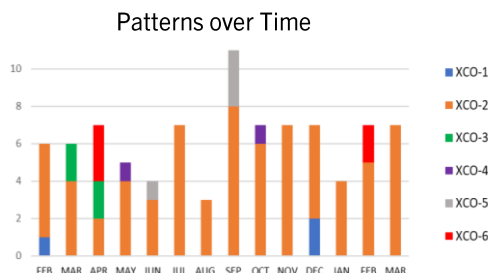
Company X provided Eurofins Microbiology Laboratory in Mounds View, MN, with 88 presumptive *Listeria* samples that they had collected and stored over the span of approximately 14 months, as well as a floor plan from their facility. Eurofins analyzed the presumptive samples with the Rheonix *Listeria* PatternAlert™ assay and evaluated the results against the provided floor plan.

RESULTS

For each sample processed, the Rheonix *Listeria* PatternAlert™ assay assigned a company-specific ID, or “pattern,” based on the presence or absence of genomic sequences present in the *Listeria*. The detailed Eurofins analysis of Company X’s results identified a primary, consistent pattern for *Listeria* among the positive samples. Together with location data for each sample, the common *Listeria* pattern of concern could be placed throughout the main floor of the facility and within the equipment room. Finally, a trace of the process identified a mobile piece of equipment (cart) that traveled between and connected the seemingly disparate hot spots in the environment as the root cause of the recurring *Listeria*.



(Right) PatternAlert data shows recurrence of Company X’s pattern XCO-2 as well as sporadic occurrence of other pattern types over 14 months. Data suggest ongoing *Listeria* recontamination of sites with XCO-2 pattern (illustrative).



(Above) A trace of the process identified a mobile piece of equipment (cart) that traveled between and connected environmental hot spots as the root cause of the recurring *Listeria* (illustrative).

SOLUTION

Through detailed analysis of the locations of recurring *Listeria*, Company X was able to develop corrective actions to thoroughly clean the inside of the cart (harborage site) and eliminate it as a source of *Listeria* in the facility. In addition, Company X expanded upon and closed the gaps in their cleaning procedures for equipment as well as sanitation practices among the staff.

Following in-house screening, Company X now sends all positive *Listeria* enrichments to Eurofins Microbiology in Mounds View to be processed with Listeria PatternAlert™. New results are analyzed against the patterns in Company X's Listeria PatternAlert™ testing through Eurofins as a routine step in their environmental monitoring.

Transitioning from reactive to proactive, Company X has strengthened their program by incorporating Rheonix Listeria PatternAlert™ testing through Eurofins as a routine step in their environmental monitoring.

Company X

- 1 Environmental samples screened in-house for *Listeria* spp.



eurofins

- 2 Positive samples processed with Listeria PatternAlert assay and software



Did this challenge sound all too familiar? Reach out today to learn more about how we can partner with your team and strengthen your program.

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ABOUT US

Eurofins is Testing for Life. We are proud to expand our services and continue growing to meet the needs of our clients. Eurofins is the global leader in food, environment, pharmaceutical, and cosmetic product testing, and in discovery pharmacology, forensics, advanced material sciences, and agro science contract research services.

With over 61,000 staff across a network of 900 laboratories in 61 countries, Eurofins' companies offer a portfolio of over 200,000 analytical methods. Eurofins Shares are listed on Euronext Paris Stock Exchange.

ABOUT RHEONIX

The Rheonix Encompass workstations enable highly multiplexed sample-to-answer molecular testing for use in clinical, research, and applied testing laboratories. Rheonix offers automated multiplexed assays for food safety and beverage quality testing, as well as a growing portfolio of clinical diagnostic assays. For more information, visit www.rheonix.com.