

CASE STUDY - FROM INSIGHT TO ACTION

Augmented Diagnostics with GENE-UP® TYPER for root cause analysis of *Listeria monocytogenes* in the production of raw milk products.

BACKGROUND

A dairy product producer needed to assess the quality of milk upon arrival to make rapid decisions

Listeria monocytogenes is the key contaminant of concern in raw milk. Testing the presence of this contaminant is crucial to the decision of the production team. Raw-milk based products have a higher value than pasteurized milk based products. As such, they were looking for a rapid and reliable diagnostics tool. In some cases, *L. monocytogenes* was also found in final products after the milk had been cleared for production.

On top of this, the company wanted to have in house typing capability to identify the origin of different strains for root cause analysis.

How do we obtain rapid reliable results in house?

Are there different strains contaminating the raw milk?

Are the final products' contaminants coming from raw milk, from other raw materials or even from the environment?

METHOD

bioMérieux provided a 2 in 1 solution for routine detection and typing with GENE-UP® TYPER, the versatile PCR from bioMérieux.

While GENE-UP®, bioMérieux's PCR platform, granted conduction of in house routine testing, the quality team was particularly interested in a tool allowing root cause analysis and understanding past contaminations.

GENE-UP® TYPER is a multiplex PCR kit based on selected genetic markers of the pathogen. It predicts the strain's genome using an underlying reference genome database in a cloud-based and user friendly platform. The solution allows for higher resolution information 24 hours after positive detection, or 1 hour from a colony, for a more efficient root cause analysis through strain clustering.

CONCLUSION

GENE-UP® TYPER is a component in an advanced solutions system called Augmented Diagnostics

- By partnering with bioMérieux, the company was rapidly able to identify contaminated milk tanks to produce higher value raw milk based products.
- GENE-UP® TYPER use resulted in better root cause analysis.
- GENE-UP® TYPER allowed the company to provide consumer with safe and high quality products with a tracability based on typing.

RESULTS

GENE-UP® TYPER is rapid decision making tool based on easy, fast and reliable insight and identification of the source of contamination.



- Production environment risk

Better discrimination of raw milk suppliers thanks to a simple in-house tracking of related strains, without waiting for external lab results.



- Extended environment assessment Faster understanding on whether the contamination is resident or transient led to an improved environmental control and root cause analysis.



- The Value

Thanks to fast typing results, the company was able to optimize their raw milk cheese production, saving significant costs.



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Learn more about our Augmented Diagnostics Approach.