

Reducing Testing Time from 15 Days to 72 Hours: bioMérieux Leads the Way

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In today's rapidly evolving beverage industry, ensuring product quality, safety, and efficiency is more critical than ever. bioMérieux, a global leader in microbiology testing solutions, has been at the forefront of developing innovative tools to address these challenges. Its latest breakthrough, GENE-UP PRO HRM, is a DNA-based test for detecting heat-resistant moulds. Co-developed with Ocean Spray, the solution helps juice and concentrate producers safeguard product integrity while cutting time-to-result from 15 days to just 72 hours.

To delve deeper into the inspiration behind this innovation, its impact on operational decision-making, and its broader role in enhancing food safety and brand protection, NUFFOODS Spectrum spoke with Jermaine Lindsey, Dairy & Beverage Marketing Manager at bioMérieux. In this exclusive conversation, Lindsey shares how GENE-UP PRO HRM is transforming beverage quality control and what the future holds for bioMérieux's innovation journey.

What specific industry challenges or gaps prompted bioMérieux to develop GENE-UP PRO HRM, and how did the collaboration with Ocean Spray shape its design?

For more than a decade, bioMérieux has developed innovative microbiology testing solutions for the beverage industry to solve their most pressing challenges and to provide true bottom-line benefits. bioMérieux collaborated with industry leader Ocean Spray to develop a custom heat-resistant mould test designed to improve operational efficiencies without compromising quality. According to Chris McNamara, Ocean Spray FSQA Senior Manager, "the juice industry has evolved over the years, so has the risk profile for spoilage concerns. As a farmer-owned cooperative, innovation is in our [Ocean Spray's] DNA. Partnering with bioMérieux resulted in the development of a cutting-edge quality control solution with benefits not just for Ocean Spray but the industry at large."

How does the 72-hour turnaround time of GENE-UP PRO HRM transform operational decision-making for juice and concentrate producers compared to the traditional 15-day Compendial Method?

The Compendial Method for heat-resistant mould detection—a culture test known as the CMMEF Ch22 Reference Method—requires a lengthy 15-day time-to-result, which is inefficient for manufacturing operations. Juice/concentrate producers currently must decide to either incur costly storage fees until test results are received or forgo the waiting period and risk shipping spoilage-prone products.

How does GENE-UP PRO HRM ensure accuracy and reliability while significantly reducing time-to-result, and what role does its validated equivalency to the CMMEF Ch22 Reference Method play in this?

Unlike other yeast and mould test kits in the market, GENE-UP PRO HRM targets ascospore profiles to ultimately determine the presence of viable heat-resistant moulds, resulting in the most comprehensive and reliable testing solution available today. Its equivalence to CMMEF verifies that the solution will detect the same organisms as the traditional methods, but with a faster turnaround time.

Beyond operational efficiencies, what impact do you foresee this technology having on food safety, spoilage prevention, and brand reputation in the beverage sector?

These targets do not pose health concerns; however, this technology provides a tool for beverage and ingredient manufacturers to safeguard their brand and production process. Spoilage prevention will help create operational efficiencies with faster detection of potential issues. We think this solution will help reduce the chance of products developing visible signs of mould in the marketplace while also preserving brand image with customers, which ultimately reinforces brand loyalty.

Are there plans to expand this DNA-based heat-resistant mould detection technology to other product categories or markets beyond juices and concentrates?

Since the commercial launch of this product, we've had many other segments express interest in adapting this test to different matrices, like ingredient suppliers. We're excited to explore where this test could add value with other product categories in the industry, in the same way we did for this test.

Looking ahead, how does GENE-UP PRO HRM fit into bioMérieux's broader innovation strategy for the beverage industry and molecular diagnostics?

It fits into our broader innovation strategy for the beverage industry by going beyond the standard solution and beyond the status quo. We're dynamic alongside the industry and standard testing isn't going to solve everything; we are going to innovate alongside them.

Beverages continue to innovate, and therefore, we do too. Both GENE-UP[®] PRO HRM and GENE-UP[®] PRO ACB are a result of bioMérieux's xPROTM Program, an innovation engine within bioMérieux that challenges the status quo to advance molecular diagnostics. Beverage industry leaders can partner directly with bioMérieux's teams to rapidly develop, validate and commercialise innovative molecular assays to respond to emerging needs and provide solutions to enhance overall quality programs.

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