



Victory Brewing Company Improving Brewing Quality Processes with brewPAL

EXECUTIVE SUMMARY

Victory Brewing Company, a Pennsylvania-based craft brewer, was the first brewery to adopt brewPAL as a game-changing tool for detection of beer spoilage organisms. Victory partnered with Invisible Sentinel, the makers of brewPAL, to develop the company's Veriflow application for the brewing industry. Victory validated the accuracy and sensitivity of this 3-hour detection test for *Pediococcus* and *Lactobacillus*, and has since adopted brewPAL as a critical component of their overall quality assurance process. Since the implementation of brewPAL, Victory has realized significant increases in efficiency relating to their quality process workflows, and dramatically shorter hold times on finished product.

BACKGROUND

Victory Brewing Company has a long established emphasis on continuous improvement in quality processes. The company's spoilage organism testing method originally involved plating samples on bacteria growth media, with routine testing for spoilage organisms at six stages in the brewing process: when the beer leaves the brewhouse; mid-way through fermentation; at the end of fermentation; through centrifugation; in bright tanks; and at final packaging. Test results via this method required 5-7 days, and longer for confirmatory testing.

SITUATION

Even with a robust quality focus on the 30-million+ bottles of beer produced annually at Victory, spoilage organisms can make their way into the process. 5-day plating tests used to identify the presence of spoilage organisms can lead to a costly recall of packaged product that might already have left the facility. With Victory's brands in broad national distribution, the wait time to confirm spoilage means beer can be across the country when test results are in, making it very expensive to bring the product back.

Zach Miller, Quality Lab Technician, opted to evaluate brewPAL based on the technology's ability to provide actionable test results for *Pediococcus* and *Lactobacillus* in under 3 hours. Obtaining near immediate micro testing information on beer in production - before the expenditure of packaging or distribution - was a huge motivator for Victory in the adoption of brewPAL.

brewPal's turnaround time made trying the technology an easy decision. Knowing that our beer is free of spoilage organisms before it leaves the premises gives us a tremendous feeling of security. By eliminating that risk, we are now able to have a more productive brewery and feel confident that every beer leaving our facility is of the quality we intended and our fans deserve.

Adam Bartles, Director of Brewery Operations



COMPANY PROFILE

- 2014 production: 125,000 barrels
- 9 year-round beers, and 11 seasonal beers, including all styles from lagers to imperial stouts
- Three brewery locations in Downingtown, Parkesburg, and Kennett Square PA, and 3 full-service brew pub restaurants
- Uses only whole-flower hops in beer brewing
- Founded by Bill Covaleski and Ron Barchet, who refined a friendly home-brewing camaraderie through technical training in Germany, and combined their experience to establish Victory in 1996
- Creative use of choice ingredients is a hallmark of Victory's flavorful brews
- Current distribution includes 34 states, as well as a growing international business in over 8 countries



IMPLEMENTATION

Victory first implemented brewPAL testing in bright tanks, as this was identified as the most critical control point in the quality process. Training staff to use the brewPAL system took less than an hour, with only basic lab skills needed for sample collection and running the system. The demonstrated accuracy and time to results with brewPAL has prompted Victory to expand use of the test to other quality control points in beer production.



Learning to use the brewPAL system didn't take long at all. The amount of man-hours to run the system is much less than traditional plating, freeing up personnel for other tasks.

Zach Miller, *Quality Lab Technician*



To request a demonstration or learn more about brewPAL, contact Invisible Sentinel at 215-966-6118, or info@invisiblesentinel.com

Testing Yeast Slurries



Victory maintains an inventory of numerous yeast strains which are used for multiple generations across the wide range of brews they produce. Given the criticality of ensuring harvested yeast is free from spoilage organisms, the team at Victory validated a yeast slurry application for the brewPAL system. "The 3-hour turnaround time to results is really critical," says Zach Miller, "so we can be confident we aren't pitching spoiled yeast into our brews." Victory has implemented an ongoing protocol for testing their yeast slurries with brewPAL.

Environmental Testing



The Victory QA team is using brewPAL to support implementation of stricter protocols at various stages of the brewing process. Victory validated the system for environmental testing, to identify presence of microorganisms in what might be considered unexpected locations. One example was a test of samples collected from floor drains in the bottling area. Positive test results using brewPAL led to establishing a new cleaning process to prevent spoilage organisms from potentially being tracked on workers shoes.

DISCUSSION

A specific example of an operational and financial benefit experienced utilizing brewPAL involved a recent run of barrel-aged product. After barrel aging, the beer tested positive for *Lactobacillus* with brewPAL. Following a tank cleaning procedure, Victory was able to immediately proceed with a subsequent run of a time-sensitive batch of beer to fill a priority customer order. brewPAL test results less than 3 hours later showed that the tank cleaning was effective, the next run of beer was free of *Lactobacillus*, and therefore no hold time was required. The critical customer order shipped on time, with total confidence that the beer was clear of potential spoilers.

Brand integrity is paramount at Victory; same-day release of product with confidence that the beer is free from spoilage organisms provides real peace of mind. This is just one example of the many operational and financial improvements that can be made with the use of brewPAL.



Invisible Sentinel, a global molecular solutions company is dedicated to providing first-in-class microbial detection tools. The company's core technology, Veriflow, is a patented, game-changing platform that integrates molecular diagnostics, antibody design, and immunoassays. Veriflow has been applied across multiple industries including food safety and beverage quality.

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