

Good craft beer can be spoiled by bacteria

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Image: John White

Beer spoilage bacteria was found in 10 of 50 final product beer samples from four of the nine breweries tested in Houston, Texas, according to research presented at the annual meeting of the American Society for Microbiology.

Many craft beers are not pasteurized or filtered and are potentially more vulnerable to bacterial spoilage. "Beer spoilage bacteria are a potential challenge for the growing craft brewing industry. As craft brewing companies grow and produce greater volumes of [beer](#), the beer may become subject to increased storage times and temperature abuse," said

Mary Goodman, graduate of the Master of Science program at the Conrad Hilton College of the University of Houston.

Many small craft brewers do not have the benefit of having their own [quality control](#) laboratory. Furthermore, small craft breweries may not have the financial or physical resources to employ sophisticated and expensive quality control methods. They rely on traditional methods to perform quality control of their product by analyzing the expected specific beer properties of color clarity and flavor by using the brewer's senses.

The research performed at the Conrad N. Hilton College of Hotel and Restaurant Management at the University of Houston found that these results are similar to findings of recent studies testing craft beers in Australia and Italy. The method used two growth media in the testing procedure to indicate not only the possible presence of beer spoiling bacteria in the beer, but when used in conjunction, the bacteria's beer spoilage ability and how adapted that bacteria may be to the brewery's environment. "There is a need for research relevant and easily adapted for use in small craft breweries. The methods should facilitate the breweries detection and understanding of the risk of bacterial contamination and do so in a way that small craft breweries can afford to do on a regular basis in their own operations," said Goodman.

The results confirmed the media specifically grows lactic acid beer-spoilage bacteria and could be used to confirm the presence of bacteria that could potentially ruin the beer without any further confirmatory testing. This method could be used by small craft brewers to detect these microbiological risks in a way that breweries, regardless of size, could afford to do to protect their product and reputations from a bacterial spoilage incident.

In conclusion, this study was able to identify a cost effective, accurate

and simple filtration culture on media method that can be incorporated into a small craft brewer's quality assurance program. This traditional culture on media method produced results that require no further testing by the brewer to confirm for the presence of a beer spoilage bacterial contamination in the beer.

More information: This research was presented as part of the 2015 General Meeting of the American Society for Microbiology held May 31- June 2, 2015 in New Orleans, Louisiana.

Provided by American Society for Microbiology

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