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Fact Sheet
MICROBIOLOGY

Rapid testing for beer spoilage bacterial strains of *Pediococcus* and *Lactobacillus*

Introduction

Most microorganisms are unable to grow in beer due to its low pH and the presence of alcohol and hops-derived bitter acids which have antimicrobial properties. Some microbes found in breweries, however, have evolved to overcome these harsh conditions and if allowed to grow can impart undesirable characters to beer. *Pediococcus* and *Lactobacillus* are two of the most common of these beer spoilage microbes and account for the majority of beer spoilage problems.

Rapid detection service

AWRI Commercial Services offers a rapid detection service for *Pediococcus* and *Lactobacillus* bacteria in beer, fermentation samples and yeast slurries with a one to two-day turnaround time.

How does it work?

The method uses the polymerase chain reaction (PCR)-based Veriflow® technology and targets DNA regions found in both *Pediococcus* and *Lactobacillus* that specifically give them resistance to hops-derived bitter acids. This means that only DNA from bacteria capable of growing in beer is detected.

What sort of results will I get?

The report will indicate whether the sample is positive or negative for *Pediococcus and Lactobacillus*. It will also provide the approximate number of cells/mL, giving an indication of the level of contamination and associated risks.

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What are the sample requirements?

A representative 50 mL sample is required. It's important to ensure that the beer, fermentation or yeast slurry is thoroughly mixed prior to sampling.

What does it cost?

The analysis costs $84 (excluding GST) per sample for up to 10 samples.

Discounts can be arranged for a batch of more than 10 samples. A quote can be requested by emailing commercialservices@awri.com.au.

Other considerations

As this test relies on PCR, it is possible that DNA from non-viable cells could be detected, resulting in a low level false positive result.

If a negative result is obtained when there is reason to believe that microbial spoilage has occurred, there are additional methods that can be used to try to identify spoilage microbes, such as microbial plating and metagenomic sequencing.

Contact

For further information, please contact:

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