AWRI

AWRI COMMERCIAL SERVICES
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Fact Sheet
MICROBIOLOGY

Rapid method to test for *Brettanomyces bruxellensis*

What is the service?

AWRI Commercial Services is offering a rapid *Brettanomyces bruxellensis* detection service with a 1-2 day turnaround time. This service will provide results much more quickly than traditional plating methods currently used to detect viable Brett cells.

How does it work?

The method uses the polymerase chain reaction (PCR)-based Veriflow™ technology and specifically targets *B. bruxellensis* DNA regions. provides relevant support to grapegrowers and winemakers.

What sort of results will I get?

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

What is the sensitivity?

A minimum of 10 cells/mL is required for *Brettanomyces bruxellensis* to be detected.

What are the sample requirements?

A representative 50 mL sample is required. Please ensure the wine is thoroughly mixed prior to sampling.

What does it cost?

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

For more than 10 samples, please request a quote directly from leanne.hoxey@awri.com.au.

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FAQ

I submitted my sample for plating and Veriflow™ but the results are different or contradictory – what is going on?

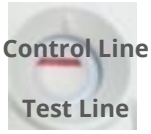
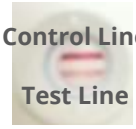
As a PCR based method, Veriflow™ works differently from traditional plating. Because it is targeting DNA present in the sample, it's possible for Veriflow™ to detect both viable and non-viable *B. bruxellensis* cells. Traditional plating, on the other hand, only detects cells that are culturable (able to grow into a colony on an agar plate). In some cases this could result in a positive result from Veriflow™ and a negative result for plating for the same sample. However, validation experiments conducted at the AWRI have shown that results of the two methods are generally consistent (see next section).

Validation comparison

The AWRI has performed validation trials in red and white wine. Results suggest Veriflow™ is comparable to the traditional plating method. The table shows an example of results from the validation trial. The images of the Veriflow™ cassette show the top red line (Control Line), which indicates that the assay is working. The line below the Control line is the Test Line, which only appears if *B. bruxellensis* is present.

Wine which had no detectable *B. bruxellensis* (*Column 1*) was spiked with *B. bruxellensis* (*Column 2*). Results show the Test Line appears, indicating a positive result which coincides with positive plating results.

In addition, wine infected with *B. bruxellensis* cells which were then broken up to release the DNA did not seem to result in false positives (results not shown).

Method	**1**	**2**
	Wine without 'Brett'	**Control wine spiked with 'Brett'**
Image of Veriflow cassette		
Veriflow result (cells/mL)	0	High >1000
Plating (colony forming units /mL)	0	Too numerous to count

Contact

For further information, please contact:

AWRI Commercial Services

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