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UWS Innovations

SYSTEM FOR DETECTING HYDROGEN SULFIDE IN FERMENTATATION MEDIA

Researchers from the School of Biomedical and Health Sciences and The Australian Wine Research Institute (AWRI) have developed an in situ, high throughput and high sensitivity method for the detection of hydrogen sulfide (H_2S) in fermentation media.

Having particular applicability to wine production, the invention employs a colourmetric assay to quantify and characterise the immediate detection of H_2S produced by a microorganism during fermentation.

Sulfur compounds are produced during microbial fermentation of fermented foods as a result of microorganism metabolism. In wine specifically, they are classified into two groups; polyfunctional thiols (associated with fruity aroma) and hydrogen sulfide (associated with 'rotten egg' aroma).

The nature of sulfur greatly affects the final aroma of wine, so understanding its metabolism may improve methods of fermentation and provide tools for flavour augmentation.

The new method has the following innovative features:

- Simple decolourisation assay for H_2S detection;
- Quantitative high throughput method;
- In situ detection;
- May differentiate sources of H_2S production;
- Cost effective;
- Throughput process (not one point in time);
- Higher sensitivity.

The invention provides a solution that should allow for the accurate detection of 4000 individual fermentation samples over approximately two days. Comparable methods only allow for the analysis of up to 27 fermentations over approximately 30 days.

UWS is seeking to engage with commercial partners to:

- Promote licensing of the patented technology;
- Engage in collaborative R&D to extend the technology into new areas.

Status: Provisional patent filed
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