

### Bactest summary of a paper by the Research Center Weihenstephan for Brewing and Food Quality, Technical University of Munich:

#### **A new approach for detecting spoilage yeast in pure bottom fermenting and pure *Torulaspora delbrueckii* pitching yeast, propagation yeast and finished beer**

Obtain full paper from: <http://www.asbcnet.org/publications/journal/Pages/default.aspx>

- ❖ Beer quality is highly dependent upon yeast condition.
- ❖ Breweries should consider the quality of the pitching yeast.
- ❖ Spoiling yeasts such as wild types of *Saccharomyces cerevisiae*, *S. cerevisiae* var. *diastaticus* occur in pitching yeast and as secondary final product contaminants.
- ❖ Spoiling yeasts negatively impact pitching yeast fermentation and beer flavour.

This study used Speedy Breedy to detect five spoilage yeast strains of *S. cerevisiae* var. *diastaticus* in four pure pitching yeast strains of the brewing yeast *Torulaspora delbrueckii*. Real-Time PCR was used to validate the method.

#### **Results and Conclusions:**

- Cultivation in Speedy Breedy at 37 °C in YM broth inhibited all pitching yeasts but increased the spoiling yeast.
- Low spoilage yeast concentrations of 10 cells/mL and contaminated industrial samples were reliably detected.
- The results of the detection time show that an average time benefit can be achieved towards the method suggested by Walsh and Martin and also Back.

- Depending on the concentration of spoilage yeast Speedy Breedy showed results after 9 to 50 hours compared with at least 3 days for reliable results on agar plates.
- No material was necessary other than the media, Speedy Breedy, and the culture vessel.
- This test can easily be performed as part of a brewery's daily routine with minimum effort.
- It can be applied to samples taken from all over the brewery starting with pitching yeast, to test the beer before and after filtering, to test the pureness of the cropping yeast and, of course, the finished product.
- It is an efficient method for quality control to detect spoilage yeasts and it works reliably under high cell concentrations of propagation yeast.
- Contamination rates of 0.001 % of spoilage yeasts in pitching yeast and low cell concentrations in real contaminated industrial samples were reliably identified.



Speedy Breedy Unit - Compact & Portable

Weight of unit: 2.75kg

Height: 13.3cm Width: 31cm Depth: 11.2cm

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**The paper will be included as part of the 3rd edition of the ASBC to be published in late 2016.**

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