Countstar® BioFerm

Focus on the Budding Activity of Your Fungi!

In addition to cell concentration and mortality rate, an additional measure of cellular vitality focusses on the bud formation by fungi such as *Hydra, Candida* and *Saccharomyces*. Conventional methods like counting the number of buds under the microscope or analysing the transcription dynamics can be both time consuming and costly and are often error-prone.

The automated Countstar® BioFerm provides a fast and accurate solution to retrieve this essential vitality parameter. In an image-based analysis of *Saccharomyces cerevisiae* acquired during a champagne manufacturing process, the Countstar® BioFerm demonstrates its ability to quantify the bud formation property by tracing the sample's aggregation data.

Budding fungi cells appear as two or three cell-containing aggregates (Figure 2). These aggregates are present in significantly higher numbers during the exponential phase of this process compared to the dying cell sample at the termination of the fermentation (Figure 3).

In conclusion, the Countstar® BioFerm supplies an abundance of essential viability and vitality data, including that of asexual cellular budding. This parameter is a clear indicator of cell culture activity and is practical for a wide range of applications.

Ask your regional sales partner or contact us directly to schedule a demo of the Countstar® BioFerm. Our applications specialists are ready to assist you.

www.countstar.com

Fig.1: The Countstar® BioFerm

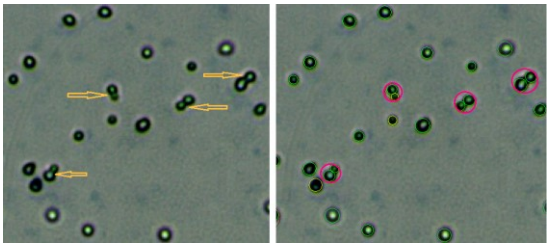

Fig.2: Budding *Saccharomyces cerevisiae* in a champagne fermentation. **Left:** Section of a raw image, acquired by the Countstar® BioFerm; budding yeasts indicated by orange arrows; **Right:** Same image section analysed by the Countstar® BioFerm software, aggregates are labelled by pink circles (zoom in), viable cells marked green, dead cells yellow.

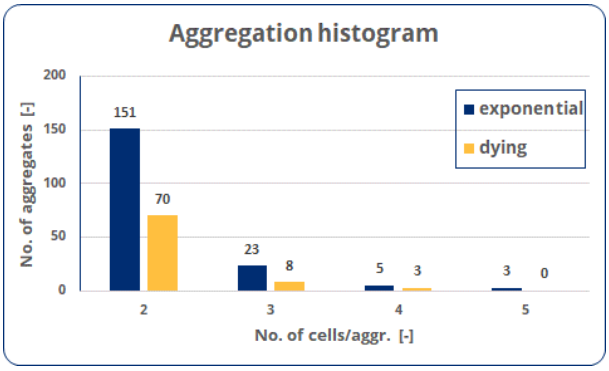

Fig. 3: Comparison of the aggregation rate of exponentially growing yeasts **(blue**; aggregation rate 39.5%) to a dying sample from the same fermentation shortly before its termination (**orange**; aggregation rate 12.1%)