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Saccharomyces boulardii: probiotic yeast for craft beer production, growth analysis and biovolume estimation

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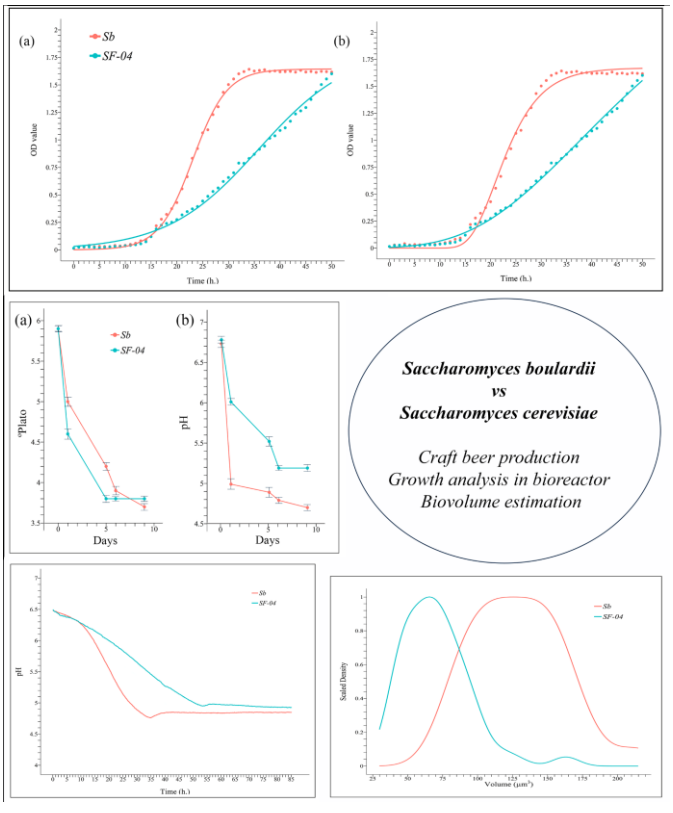
Graphical Abstract



Abstract.

In recent years, an increase in the consumer interest has been observed for craft beers, which are unpasteurized and unfiltered. Thus, the use of probiotic starters remaining in the craft beers could significantly increase health benefits. Here, the first study on the use of the probiotic *Sacharomyces boulardii* (*Sb*) yeast as single starter for craft brewing at 20 L scale is presented. The probiotic biomass growth was studied in bioreactor batch culture and modelled by the logistic and Gompertz equations. Finally, the probiotic biovolume of *Sb* was estimated from microscopy images. All these experiments were compared with those obtained with a commercial *Sacharomyces cerevisiae* (*Sc*) yeast strain, which is commonly utilised in the brewing industry. The result of this study showed that, the craft beer produced with *Sb* possessed higher antioxidant activity and more acidification, which is very desirable to reduce contamination risks at large-scale production. Furthermore, *Sb* exhibited faster growth and larger biovolume than *Sc*, which increases the probiotic value of the final craft beer.

References

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