

Talk

Serial repitching: its effect on lager yeast fermentation properties



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ABSTRACT

Motivation: The term serial repitching is given to the act of harvesting yeast at the end of beer fermentation with the aim of using it in the brewing of subsequent batches. It has been shown that serial repitching causes progressive deterioration of the physiological state of the yeast cells due to damage accumulation as a result of exposure to stress, and subsequently, an alteration in the brewing product. Nevertheless, the magnitude of this physiological deterioration varies according to the yeast strain [1]. The aim of the research is to evaluate the effect of serial repitching of the lager yeast used by an industrial brewery under its regular production conditions for eight consecutive generations.

Methods: For this purpose, the lager beer data collected during production by the brewery's quality control laboratory on a routine basis during the years 2023 and 2024 was analyzed. The parameters considered were total fermentation time, final attenuation, pH and viability, vitality and size of the lager yeast cells. In addition, the tasting notes made by the brewers from the brewery's tasting panel were also taken into account.

Results: Our analysis shows that most of the parameters do not show any significant difference. However, a slight difference was observed for the fermentation time, which could be caused due to the extended lag phase which is usually seen in freshly propagated yeast [2].

Conclusions: The results suggest that serial repitching at the level studied in the research has a minimal effect on the physiological state of the lager yeast strain used by the brewery and, therefore, on the quality of the resulting beer. Although this result was expected [3], the possibility that this lack of significance in the results is caused due to a low precision in the analysis cannot be ruled out, and further research with more homogeneous data would be necessary.

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