

Bioprocess Engineering

P-029 - NEW SOLUTIONS OF IMMOBILIZED YEASTS WITH OENOLOGICAL POTENTIAL

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Background

The wine sector is expanding worldwide, with more and more wine producers entering this sector, which leads to an increase in wine production. Thus, it is important that companies have access to new technologies, optimizing their production. The development of new methodologies, such as immobilized yeasts has great oenological potential, since they have several oenological applications and allow to improve the quality / price relation of the final product. This type of methodology nowadays begins to be used by the producers, especially in the production of sparkling wines, during the second alcoholic fermentation. In addition, they can also be used in alcoholic and malolactic fermentations, in the production of late harvest wines or in the correction of some problems, such as excessive volatile acidity or late fermentation. The aim of this work was the production of new solutions of immobilized yeasts with oenological potential.

Method

A set of yeasts strains isolated during different stages of grape musts fermentation were immobilized in two different inorganic porous supports: volcanic tuff and expanded clay. The immobilization success was accessed by scanning electron microscopy and to validate the potential of the immobilization, the immobilized solutions were tested in microvinification assays during 7 days. After this period the stability of the matrixes and the presence of yeast cells on the immobilized system were confirmed by SEM.

Results & Conclusions

The results proved that both supports with immobilized yeasts allowed the conversion of must sugars into ethanol, and can be reused during five batches with high efficiency, displaying the potential use of these matrices in oenological context.

References & Acknowledgments

Acknowledgments: The authors would like to thank the HIT3CH project—HERCULES Interface for Technology Transfer and Teaming in Cultural Heritage (ALT20-03-0246-FEDER-000004) co-financed by the European Regional Development Fund (ERDF) and ALENTEJO 2020.

Keywords: Wine, must, Yeasts, immobilized cells, immobilization matrices, oenological processes