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Quality assessment of alcoholic distillates produced and marketed in Albania.

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Alcoholic distillates are obtained from any sugar-bearing substance, but the processing, fermentation, and distillation techniques make the difference. This paper aims to highlight the impact of these techniques on the quality of distillates produced and marketed in Albania, evaluating their physicochemical and organoleptic parameters. 20 samples of different distillates from grapes and fruits were taken in the study. The methods used for evaluation are the standards of OIV, OAV, Reg. 2870/2000. The assessment shows a high content of: esters, which evidences preservation of varietal aromas and fermentation even after distillation, these are 2 times higher than the standard, mainly this of fruit and aromatic grape distillates; aldehydes, which indicates the poor health condition of the raw material, in 3% of the samples taken, this level is 4 times higher than the standard. All samples have a low level of methyl alcohol, which indicates a good separation of the head fraction, but 20% of them have a high level of superior alcohols, which indicates a poor separation of the tail fraction or its use for reducing the alcoholic grade of the heart fraction. All samples have a very good organoleptic assessment.

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Optimisation of fermentation parameters and cell disruption methods for production of intracellular β-Galactosidase by probiotic Limosilactobacillus fermentum LF08 bacterium

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β-Galactosidase has a wide array of applications in the food industry, such as degradation of lactose or production of prebiotics. Probiotic bacteria generally produce it, but intracellularly. Main goal of this study is optimisation of fermentation parameters as well as cell disruption methods to produce β-Galactosidase by the probiotic Limosilactobacillus fermentum LF08 bacterium. Different fermentation time, inoculum size and carbon sources as well as two cell disruption methods were applied.

Among 1%, 5% and 10% inoculum size, the best result (29,837 U/g cells) was obtained with 1% of inoculum at 16 hours of fermentation time. The effect of lactose and galactose as a sole carbon source in the medium were tested in different concentration (1,3 and 5%). Both cases exhibited similar results, meaning they are good carbon source for production of the enzyme. Higher activity was obtained in the case of the French Press compared to lysis with CTAB buffer, but increase in number of cycles did not contribute to higher activity. Our results are preliminary but will serve as a good information to study the β-Galactosidase of the probiotic Limosilactobacillus fermentum LF08 bacterium.

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