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Banana: An Alternative as Adjunct and Natural Aromatic Compound for Beers

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Recently there has been an increasing interest in beverages' quality, particularly concerning consumer's perception. In the brewing industry new products have also been developed aiming at supplying this modern market. On the other hand, banana is the main fruit in international trade and the most popular one in the world. In this work the main proposal was to evaluate (i) new strategies for the use of banana as an industrial supplement and (ii) an alternative brewing process for obtaining a new beer. For this, static fermentations were conducted in a 180 dm^3 cylindrical-conical reactor (Microbrewery Pilot Plant of the Engineering School of Lorena, USP/Brazil). The initial malt wort was prepared according to conventional brewing techniques and banana juice (produced by enzymatic and later thermal treatments) used to increase the wort concentration. Using a commercial lager brewing strain, fermentations were carried out at pH 5.0 and 8 $mg.L^{-1}$ of O_2, at 15 ºC and total wort concentration of 15 ºP. The results of productivity (0.6 $g.dm^{-3}h^{-1}$) and ethanol yield (0.4 $g.g^{-1}$), for 72 h of fermentation with an attenuation of 72 %, showed a good process performance suggesting further experiments to better evaluate the influence of variables such as wort concentration, temperature, and nutrients. Thus, banana can be considered a promising and new alternative as adjunct in brewing, leading to a product with different characteristics (natural aroma) or simply to new applications of the banana fruit. Acknowledgements: FAPESP, Malteria do Vale, Corn Products Brasil, Wallerstein Industrial e Comercial, and DiverseyLever (Brazil); FCT (Portugal); and CAPES/GRICES (Brazil/Portugal).

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