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NEW VIABLE INDUSTRIAL WASTES MIX FOR FODDER YEASTS PRODUCTION

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Abstract

The study aimed the diversification of fodder yeast assortments with viable economic effects while reducing the environment pollution by capitalization of wastewaters with high monosaccharides content from pulp and paper industry and residual whey from milk industry. Using the Response Surface Methodology the fabrication recipe has been optimized according to an experimental program based on a mathematical model with biomass, protein and residual sugar as response functions. The culture medium for a mix of *Candida utilis* and *Candida pseudotropicalis* strains was composed by 25 g/L fermentable monosaccharides provided by pulp and paper wastewaters and whey, MgSO₄ 0.8 g/L, ZnSO₄ 1.2 g/L, MnSO₄ 1.0 g/L, FeSO₄ 0.8 g/L and up to 1053 mg/L nitrogen and 422 mg/L phosphorous from (NH₄)₂SO₄ and (NH₄)₂HPO₄. In these conditions, the biomass gain was of 6.45 g/L and the protein content reached a value of 50.64% while the amount of the residual sugar decreased at 2.08 g/L.

Key words: *Candida pseudotropicalis*, *Candida utilis*, mathematical optimization, wastewater, whey

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