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# Ferulic Acid Production from Agroindustrial Waste of Barley Malting Process

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**Abstract:** The wastes generated by agroindustry represents a great opportunity to obtain high value products, such is the case of ferulic acid extraction from barley grain. In this work, the yield of this process from the residue generated in the malting barley by alkaline hydrolysis was evaluated, based on an experimental design which contemplated the variation of sodium hydroxide concentration and temperature of the hydrolysis process. Furthermore, the acid amount obtained was quantified using spectrophotometric methods. With best experimental results obtained, a simulation of the process using specialized software was made in order to evaluate process scaling feasibility and, finally, an economic analysis was performed. Results shows that at a hydroxide concentration of 1.5% and hydrolysis temperature of 100°C allow achieving a yield of 0.075%. In addition, the economic analysis revealed that due to the low production rate of ferulic acid extracted from the process, a high selling price is required to surpass the investment costs.

**Keywords:** Agroindustry, Waste valorization, Bioproducts, Antioxidant production, Alkaline hydrolysis.

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